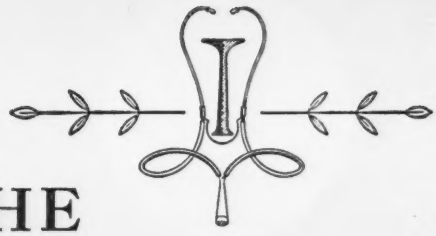

THE Journal Kansas Medical Society

DECEMBER
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VOL LVI
NO XII

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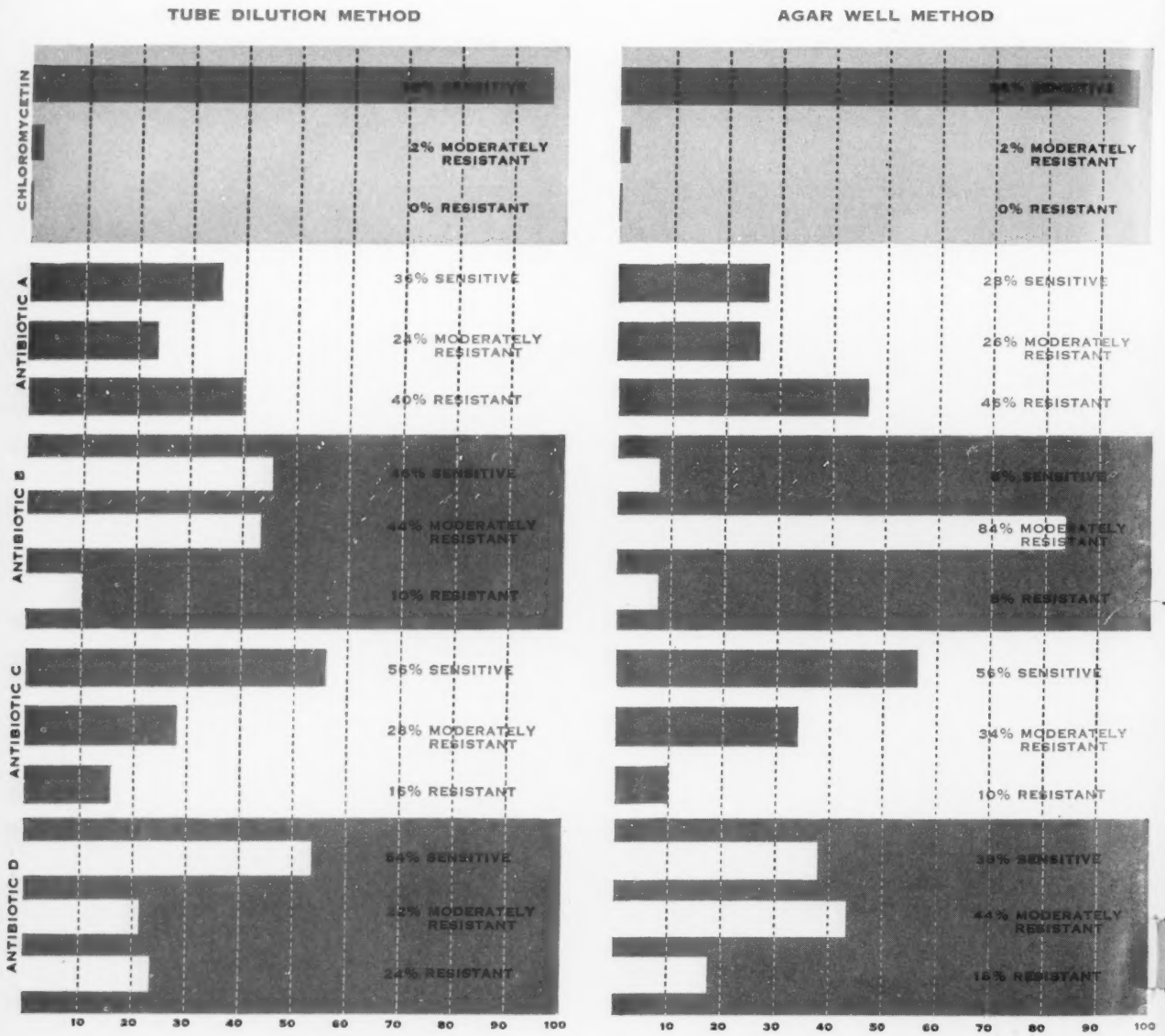

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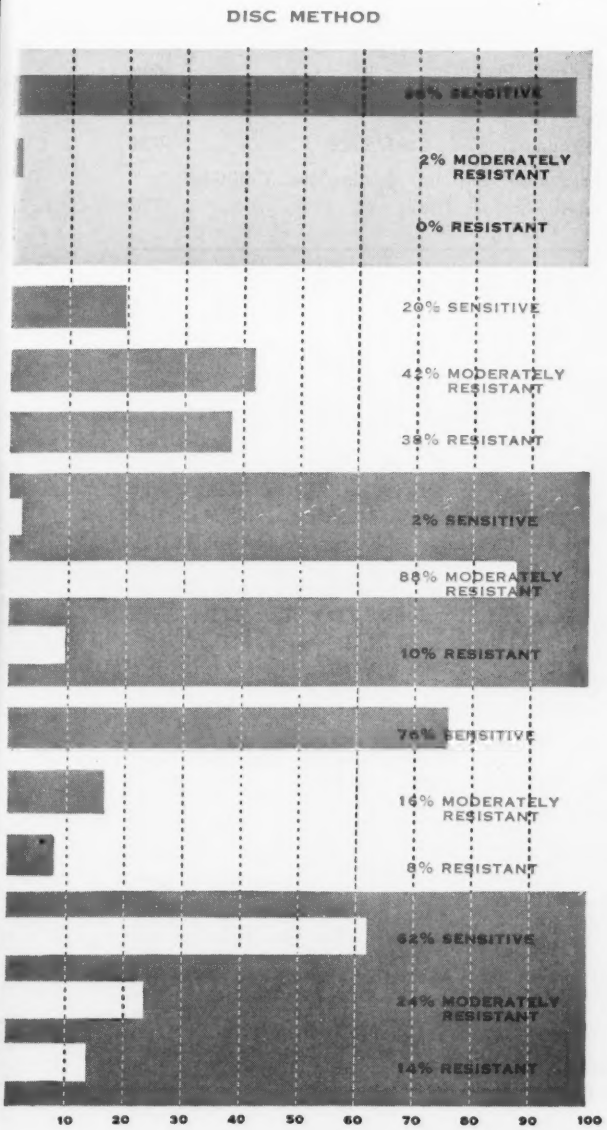

*Adapted from Branch, Starkey, Rogers & Power[8]

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References: (1) Spink, W. W.: *Arch. Int. Med.* **94**:167, 1954. (2) Finland, M.: *J.A.M.A.* **158**:188, 1955. (3) Tebrock, H. E., & Young, W. N.: *New York J. Med.* **55**:1159, 1955. (4) LeMaistre, C.: *M. Clin. North America* **39**:899, 1955. (5) Kagan, B. M.: *J.M.A. Georgia* **44**:210, 1955. (6) Branch, A.; Starkey, D. H.; Rodgers, K. C., & Power, E. E., *in* Welch, H., & Marti-Ibañez, F.: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 1125. (7) Kutscher, A. H.; Seguin, L.; Lewis, S.; Piro, J. D.; Zegarelli, E. V.; Rankow, R., & Segall, R.: *Antibiotics & Chemother.* **4**:1023, 1954. (8) Weil, A. J., & Stempel, B.: *Antibiotic Med.* **1**:319, 1955. (9) Jones, C. P.; Carter, B.; Thomas, W. L., & Creadick, R. N.: *Obst. & Gynec.* **5**:365, 1955.

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TABLE OF CONTENTS

DECEMBER, 1955

ORIGINAL ARTICLES

Your Bank's Trust Department in Estate Planning—Robert C. Guthrie, Topeka, Kansas 667

The Doctor and His Tax Problems—Harold R. Schroeder, LL.B., Topeka, Kansas . . 673

More Family Income through Mutual Funds—Clarence W. Glassen, Phillipsburg, Kansas 676

U. S. Savings Bonds—A Good Investment—George C. Rankin, Topeka, Kansas . . . 679

Life Insurance as an Investment—Pendleton A. Miller, C.L.U., Topeka, Kansas . . . 682

EDITORIALS

Special Issue on Economics 697

Our Journal 697

American Medical Education Foundation . . 698

National Organization for Medical Assistants 698

MISCELLANEOUS

President's Page 696

Just Browsing 700

Clinicopathological Conference 701

Intracavitary Use of Radioactive Colloidal Gold—Senior Thesis 716

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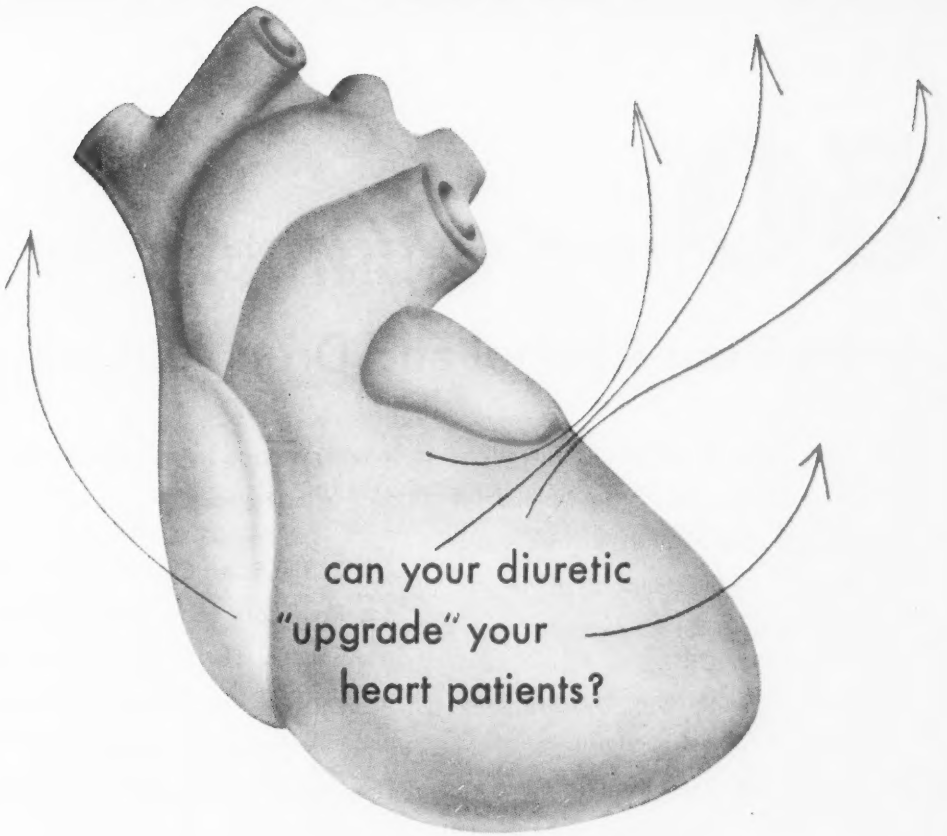

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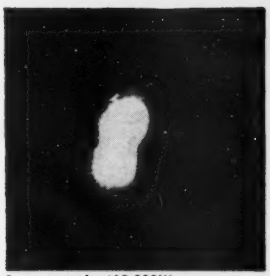
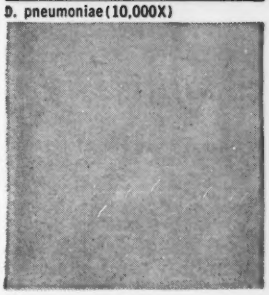
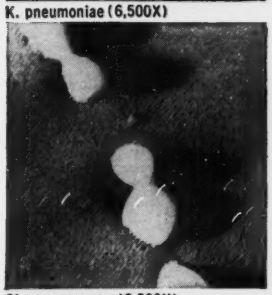


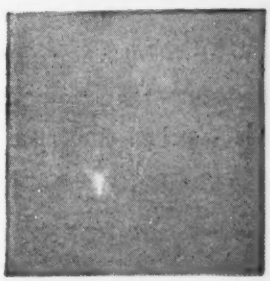
D. pneumoniae (10,000X)

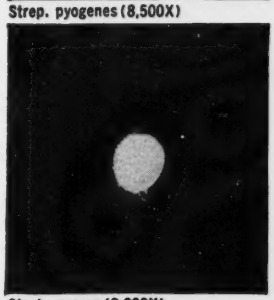
K. pneumoniae (6,500X)





Strep. pyogenes (8,500X)





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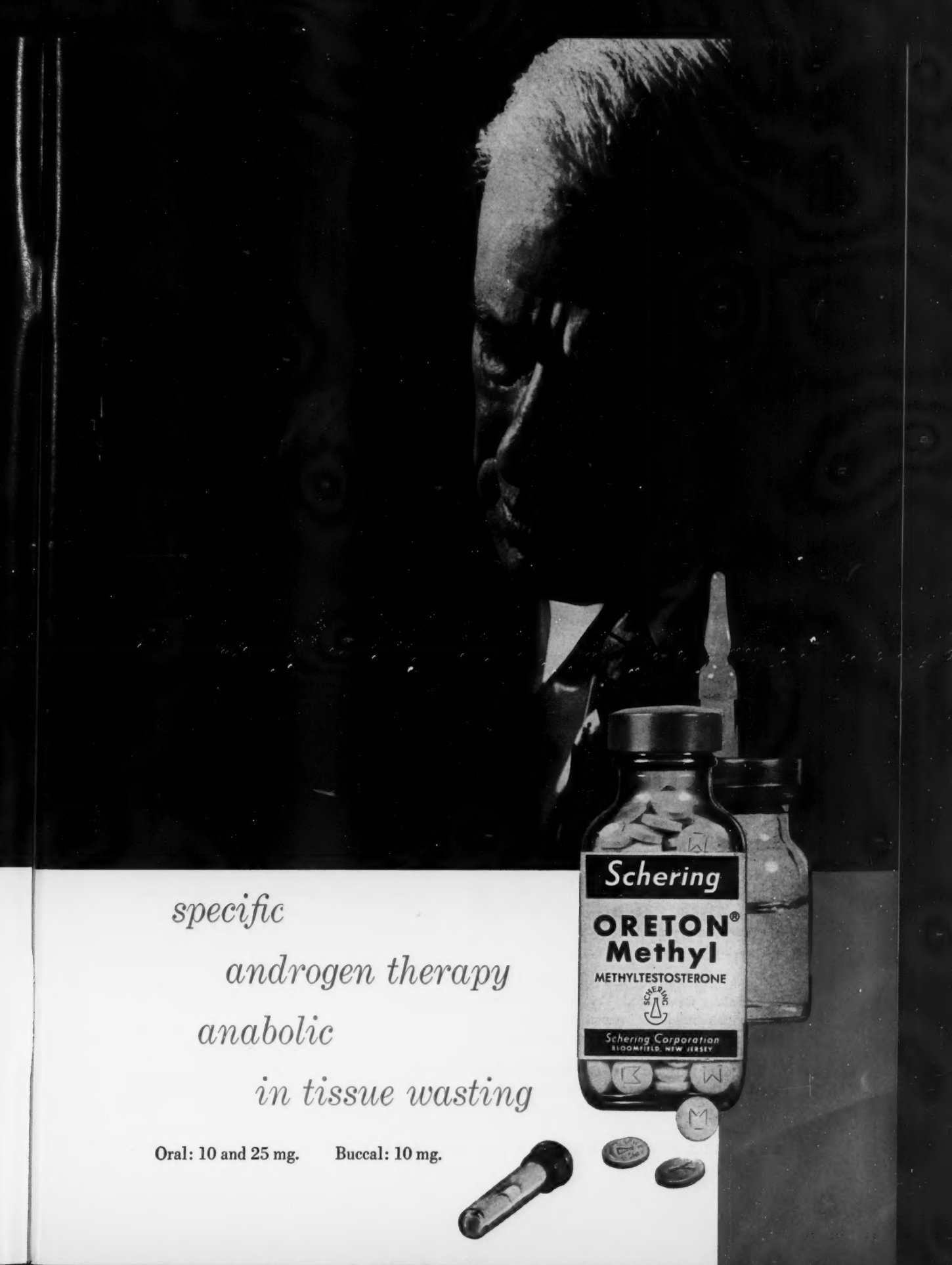

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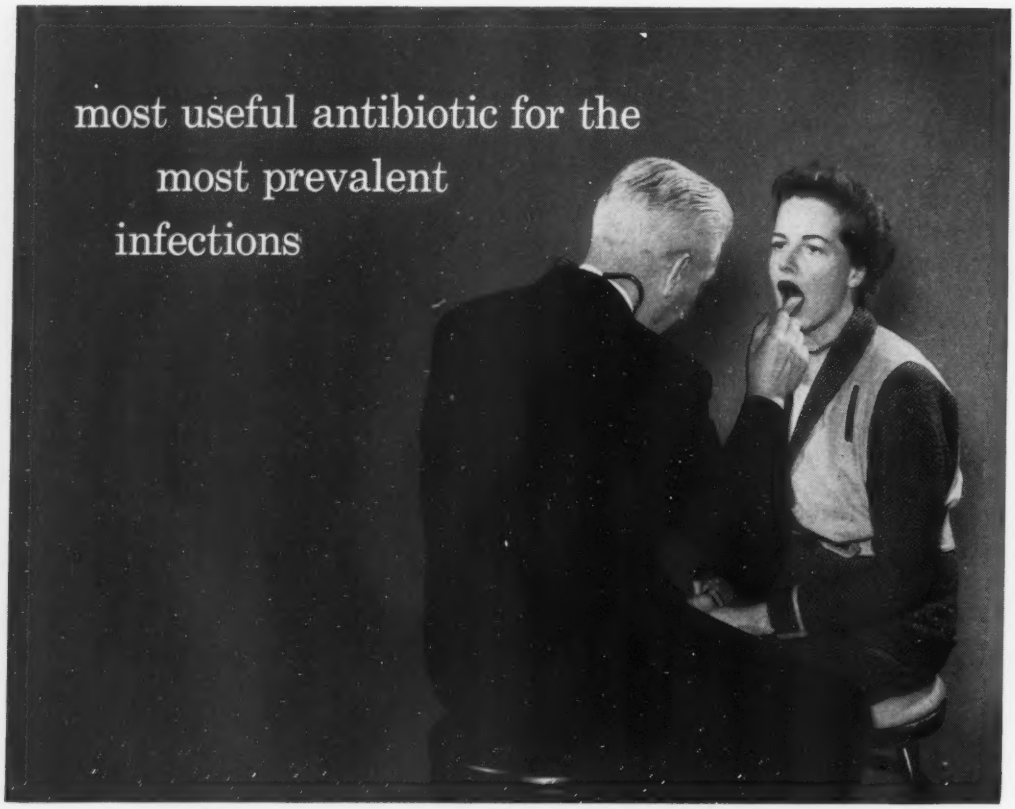

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Volume LVI DECEMBER, 1955 No. 12

Your Bank's Trust Department in Estate Planning

Robert C. Guthrie
Topeka, Kansas

With the full realization that physicians are busy men with little time to read material other than that related to their profession, every effort has been exerted to make this article brief, streamlined, and to the point. Its purpose is to tell of the services a modern bank's trust department can make available to assist the physician in carrying out his estate plan.

At the outset let me emphasize the fact that the trust department of a bank and its trust officers do not purport to formulate an entire estate plan. The lawyer, life insurance man, and accountant all play an important role in the task. Indeed, because of present high income taxes, heavy death taxes, complicated tax laws, continuing inflation, and the low earning power of money, the art of estate planning has become highly technical and, as in the field of medicine, specialization has become the order of the day. The trust officer takes his place with the estate planning specialists and through the facilities of his bank, with its unique corporate attributes, is in a position to serve the property owner in certain areas of estate administration in an invaluable way.

YOUR NEED FOR A WILL

The key instrument in the physician's estate plan should be his will, and the will should be drawn only by his lawyer. I want to emphasize this latter point because laws concerning wills and the disposition of property are complex. Court records are full of histories of litigation caused by the use of ambiguous words or phrases in carelessly drawn wills. In some of these cases the true intent of the testator has been completely defeated. In view of this, I wish to offer this direct word of caution—do not attempt to prepare a "home-made" will or rely on a "form" someone else has used. Consult your lawyer who has been highly trained for his profession and who, after considering the legal problems involved, can express your wishes as to the distribution of your estate in a manner that will prevent misunderstanding.

Certain arguments are sometimes heard in support of the theory that a will is not necessary for proper estate distribution. Among the reasons often advanced are: "My wife and I own our property in joint tenancy, so I don't need a will," or "The laws of Kansas will take care of my property." Examination of such arguments shows their inaccuracy.

Although joint tenancy with right of survivorship is a simple and effective method of passing title to property in certain instances, it cannot take the place of a will in an estate plan. Suppose a husband and wife with minor children own all of their property in joint tenancy and are killed simultaneously in an accident. In such a case there would be no survivor of the joint tenancy, and the property would be subject to administration. The court would appoint an administrator and the minor children would be subject to guardianship. There would be no assurance that either the administrator or the guardian would be satisfactory to the deceased husband or wife. In this case a will providing for the possibility of simultaneous death could have designated an executor and established a testamentary trust for the children, thus eliminating the expense and inflexibility of guardianship estates.

The author, trust officer of the National Bank of Topeka, is a past president of the Kansas Bankers Association Trust Division and formerly served as a member of the Trust Investment Committee of the American Bankers Association Trust Division. He has done graduate work in banking at Rutgers University.

Another point to consider is that an estate in joint tenancy serves to disinherit children insofar as the first parent to die is concerned. In the surviving parent is lodged the entire responsibility for passing some of the estate to the children. Remarriage of the survivor frequently makes it difficult to include the children of a former marriage in the estate plan. Adverse tax consequences too technical to discuss within the scope of this article may result from joint tenancy ownership. Contrary to the belief of many who are not trained in tax matters, joint tenancy ownership by a husband and wife does not reduce the estate of the spouse whose funds are invested in the jointly held property. Once an estate plan is established, subsequent acquisition or transfer of property in joint tenancy can wreck the plan because the terms of the property owner's will are not effective with respect to the joint and survivorship property.

The idea that the laws of Kansas (or the state of residence) will take care of one's estate without the necessity of a will needs examination. Simply stated, in Kansas the law gives one-half of a man's property to his wife and the other one-half in equal portions to his children. It is not difficult to see the problems created by the legal necessity of establishing guardianships for infant and minor children. Guardianships limit the flexibility of property management and are also costly to administer. Even if the decedent's children have attained majority, the fact that the widow receives only one-half of the net estate may prove to leave her with insufficient means. Furthermore, without a will, the property owner cannot name his executor and must rely upon the court to provide management for his estate during the period of administration and to appoint a suitable guardian if minors survive. Another point is that Kansas law restricts the sale of real estate during the period of administration to estates in which personal property is insufficient to pay debts, taxes, and administration costs. This restriction might cause hardship but can be eliminated through a will which authorizes the executor to sell real estate without order of the court.

Other reasons for not having a will are sometimes advanced, but in the light of careful examination such reasons are usually found to be no more valid than those just discussed.

One concluding word of advice: once a will is properly drawn, signed, and witnessed, it must be periodically reviewed in the light of changing tax laws, new court decisions, births, deaths, altered marital status, change of legal domicile, and possibly other circumstances. A will which has been allowed to become antiquated may cause problems just as serious as those caused by having no will at all.

NAMING YOUR EXECUTOR

The citizens of many countries are not blessed with liberal laws concerning the distribution of their property at death as are we in the United States. Among our many freedoms in making a will is the privilege of exercising a choice in naming an executor. We trust officers are firmly convinced that a number of valid reasons exist for appointing a corporate executor—the trust department of a bank.

Under the Kansas Probate Code, a corporate executor is not entitled to any greater compensation than an individual acting in the same capacity. The only valid argument that cost is reduced as a result of making a member of one's family his executor is that the compensation comes back to the family or a member of it.

In the typical case, a father who is head of a family may wish to name his wife or adult son or daughter or his brother as executor of his will. Of these close family members, the wife is probably the least qualified to carry the burden of estate administration. Yet she is the one the deceased family head would ordinarily want most to receive the benefit of any saving in cost. In other words, for the wife to "save" through earning compensation that might otherwise go to a corporate executor, she must perform a service and assume a burden for which she may be ill qualified. This happens at a time when she has suffered the loss of a loved one, a most inopportune time for her to assume great responsibility. If a son or brother is named because of his better qualification, then ordinarily the widow would receive no compensation and thus there would be no saving in administration costs insofar as she is concerned.

It would be most unusual for a husband during his lifetime, to announce to his wife that he was going to turn every responsibility which he had been carrying over to her, and that he would not even consult and confer with her on problems which would inevitably arise. Yet this is just what a husband does who names his wife sole executor of his estate. It might be argued by some that the husband's lawyer who serves as the widow's attorney would "fill the husband's shoes" to some extent. But the lawyer, though highly capable, might be unable to serve for a number of reasons including illness or even death.

A further objection to naming a member of the family as executor is the very real danger of misunderstanding developing between the one named and the other surviving heirs. Very frequently family disputes of major proportions have developed as a result of estate administration by one of the members of the family. A corporate executor is in a better position to be impartial, unbiased, and firm when neces-

sary, than a member-of-family executor. The compensation of a corporate executor would seem small, indeed, if the services rendered avoided family disputes and hard feeling which otherwise might develop.

Other important attributes of a bank's trust department as a corporate executor should be considered in deciding whether to name a member-of-family or corporate executor. A corporation, generally speaking, has continuous existence. Regulation F of the Board of Governors of the Federal Reserve System provides for continuity of fiduciary service. An individual executor may die, move, become ill, or otherwise become unable to serve; the probability of continuous existence is, at best, questionable.

In addition to continuous existence, a bank also offers continuous capacity, through a succession of directors, officers, and employees. The death or incapacity of an individual executor forces the court to appoint a successor; upon the death or incapacity of bank personnel, others are there to assume the responsibility without delay and without the necessity of the court appointing a successor.

The financial responsibility of the trust department of a national bank is a factor which should be considered. The bank must meet carefully prescribed capital requirements. It must secure the cash in estates and trusts with the pledge of securities as provided by law, and all assets held in the trust department must be kept segregated and rigidly safeguarded under dual vault control.

The collective information and group judgment available through the services of a corporate executor are of great importance. A widow, for example, who is executrix of her husband's will, could hardly be expected to make important estate decisions with the same degree of competence as could the Trust Investment Committee of a bank, composed of senior officers and experienced directors. The person who names a bank as his executor assures himself of group judgment with respect to all important decisions made in the administration of his estate.

The safeguards of governmental supervision should be a factor worthy of mention when selecting an executor. An individual is not subject to such supervision. A national bank, on the other hand, is subject to examination by representatives of the Comptroller of the Currency, the Federal Reserve Bank, and the Federal Deposit Insurance Corporation. The Comptroller of the Currency ordinarily supervises the regular examination of trust departments.

THE BENEFITS OF A TESTAMENTARY TRUST

While the physician is considering his will, he should also contemplate benefits which could accrue to his family through the operation of a trust created under his will. The term "testamentary trust" is derived from the fact that it is a device created under a "last will and testament." It is one of two main classes of trusts, the other being the living trust which, as the name implies, is created during the lifetime of the property owner.

Although volumes have been written on the subject of trusts, the essential features can be summarized briefly. A trust must have a creator, a trustee, a beneficiary or beneficiaries, property, and terms upon which the property is to be held. The trustee takes the legal but not the equitable title to the property. By statute and by common law, an extremely high standard of honesty and loyalty is required of a trustee to obtain the required relationship with the creator and beneficiaries of the trust. The late Justice Cardozo of the United States Supreme Court, in summarizing the fiduciary (trustee) relationship, made the following statement, which is now classic:

"Many forms of conduct permissible in a workaday world for those acting at arm's length, are forbidden to those bound by fiduciary ties. A trustee is held to something stricter than the morals of the marketplace. Not honesty alone, but the punctilio of an honor the most sensitive, is then the standard of behavior. As to this there has developed a tradition that is unbending and inveterate. Uncompromising rigidity has been the attitude of courts of equity when petitioned to undermine the rule of undivided loyalty by the 'disintegrating erosion' of particular exceptions. Only thus has the level of conduct for fiduciaries been kept at a level higher than that trodden by the crowd. It will not consciously be lowered by any judgment of this court."

The physician must determine whether or not his wife and children should receive outright his whole estate within a short time after his death. Few wives are trained or experienced in the financial intricacies of property management. If there are children, it is doubtful that they could competently assume the difficult task. In an attempt to solve this problem, the benefits of a testamentary trust should not be overlooked. Let us assume a hypothetical case of Dr. Jones, a successful physician 50 years of age who is married and has three children—a daughter 13 and sons 15 and 17. Mrs. Jones, although an excellent wife and mother, is completely inexperienced in business affairs. Dr. Jones purchased life insurance regularly as his income increased, and as he could afford it he invested in some high quality common stocks which have appreciated substantially in value. He owns government bonds, a savings account, and his home. In considering his estate plan, he felt that if some unforeseen event removed him from the family group, it would be both unfair and an unrea-

sonable risk to expect Mrs. Jones to assume full responsibility for the estate he had built. Discussion of the problem with his lawyer, trust officer, and insurance man led to the plan of creating a trust under will into which a substantial share of his estate would be placed after his death. His bank was named as trustee, and the trust in brief provided as follows:

1. Mrs. Jones would receive all of the net income of the trust in monthly payments during her lifetime.

2. In the event of family emergencies, the trustee was given broad power to make payments of principal to Mrs. Jones.

3. Provision for the education of the children was made, based upon the exercise of discretionary power by the trustee.

4. Provision was made, in the event of the death of Mrs. Jones prior to the time each of the children had attained a specified age, that the trustee would continue to hold in trust each child's one-third of the estate until that age was reached. During the period of continuance of the trust estate, the trustee was empowered to use all of the income for the support and education of the children and, furthermore, was given broad discretionary power to use such part of the principal as might be essential for emergencies and education.

5. It was provided, in the event the trust estate was continued for the children after the death of Mrs. Jones, as outlined above, that when each child attained age 21 such child was to receive one-half of his or her share of the trust estate, with the final one-half to be distributed at age 25.

6. The trustee was given power to invest and reinvest in accordance with the laws of Kansas, which in effect permits investments in bonds, debentures, preferred stocks, common stocks, first mortgages, and real property. (Refer to topic on Trust Investments in this article.)

Obviously many provisions in addition to those outlined above must be included to complete the trust vehicle. The impact of taxes should be carefully considered. Although no attempt is being made in this article to discuss in detail the subject of taxation as related to estate planning, it should be noted that to obtain full benefit of the "marital deduction" provision of the law, two trusts might be indicated, one to qualify for "marital deduction" with the other (a non-marital trust) designed primarily for ultimate distribution to the children. The "non-marital" trust, such as the Jones trust, avoids federal estate tax on the trust property upon the death of Mrs. Jones. This example shows that a physician can delegate to a trustee in whom he has confidence the power and duty to manage his property and support his family after he is gone, and a great degree of flexibility can be embodied in the plan.

THE LIVING TRUST

The primary difference between the testamentary trust, with which we are now acquainted, and the "living trust" is in the method of creation. The former is established through the property owner's will and becomes operative only upon his death, whereas the latter is created during lifetime and is effective from the date of creation. The living trust is implemented by a document known as a Trust Agreement between the property owner (the trustor) and the designated trustee. Under the terms of this agreement, the wishes of the trustor are expressed. As with the will, a trust agreement should be prepared only by the physician's lawyer.

More often than not, a living trust agreement is written so that the property owner can change, amend, or completely revoke it. This type of "revocable" trust does not possess the tax advantages enjoyed by certain testamentary and "irrevocable" trusts, but it does have some important attributes.

A physician who has insufficient time or experience to manage and invest his assets may establish a living trust with his bank's trust department and relieve himself of this burden and worry. All of the details of safe custody, adequate records, bookkeeping, anticipating and receiving income, collecting principal, buying and selling securities, analyzing investments, and making recommendations become the duty of the trustee. Additional property—cash, securities, or real estate—may be added to the trust at any time. The physician can direct the trustee to distribute the income in any manner he desires. He can direct that upon his death the trust shall continue for the benefit of his wife and that upon her death the assets shall be distributed to persons named in the agreement. With an arrangement such as this, in lieu of a will, the living trust can actually distribute the trust property at the trustor's death. (Usually, however, not *all* of a person's property is included in the trust; therefore, a will may be necessary with respect to the non-trust property.)

This ability of the living trust to distribute property upon the trustor's death has several advantages. Foremost, probably, is the minimizing of administration costs because property being transferred under a carefully drawn trust agreement is not subject to probate with the resultant expenses. In this connection, time, too, is saved since the period of administration is ordinarily one year or more. Another advantage stems from avoidance of publicity that arises when a will, which is a public document at death, is filed in the court. A living trust agreement need not

be publicly filed either before or after the trustor's death. Further advantage is derived from the simplicity with which the estate plan provided in the living trust continues to operate upon the trustor's death. There is no delay in assembling assets, locating witnesses, or qualifying the executor; therefore, the uninterrupted continuance of family support is assured.

The living trust, in revocable form, is in one sense a kind of experimental will because the trustor can observe the actual performance of his trustee with reference to investment policies and relationships with beneficiaries. He can consider every provision of the agreement with the assurance that the plan can be changed during his lifetime and that the property held in the trust will be managed and finally distributed in accordance with his instructions after he is gone.

As was indicated earlier, the irrevocable living trust has certain tax advantages, but it cannot be modified, amended, or completely revoked as can the revocable trust. The irrevocable trust provides a means of making a valid gift or gifts, while at the same time giving the donor the opportunity to protect the gift under the terms of a trust agreement. Such a gift in trust removes the property from the top of the federal estate tax scale applicable to the donor's estate and places it at the bottom of the gift tax scale; or, if the donor has not used his gift tax exemption, there may be no tax at all. Furthermore, an income tax reduction may be enjoyed because the income produced by the property donated in trust is removed from the donor's top bracket and is taxable to the beneficiary, whose income tax bracket may well be lower. Competent legal advice is essential to the creation of an irrevocable trust for there are a number of legal questions to be considered. Furthermore, the maker of the trust must survive its creation by three years or more; otherwise, the gift may be attacked as one in contemplation of death.

SHORT TERM TRUST AND LIFE INSURANCE TRUST

Between the revocable and the irrevocable living trusts which we have just discussed is the "short term trust" which does have some tax advantage. It is a device whereby a person may transfer property to a trust which, under the agreement, will be in effect for ten years or more. The trustor designates an income beneficiary, with the provision that at the end of ten years, or a longer period if stipulated, or upon the death of the beneficiary, the trust property will revert to him as the original owner.

Depending upon the terms of the trust with respect to income distribution, trust income is taxable either to the beneficiary or to the trust, either of which might well be subjected to much lower income tax rates than the trustor. By use of the short term trust, the physician could get some of his income over to a less severely taxed person while his earnings are highest, and at the same time recover it under the reversionary right by the time he is ready to retire.

Another special type of trust arrangement used by many professional and business people is the "life insurance trust." Life insurance is the most effective means of creating an estate which will multiply in value immediately at death. For the young physician in particular, with his increasing financial responsibilities, life insurance is the only method to provide a fixed estate for the benefit of his family in the event of his untimely death. Because of its importance as a means of estate creation, the handling of life insurance proceeds must be arranged with great care.

Most life insurance policies either permit the insured to designate a beneficiary to receive the entire proceeds of the policy in a lump sum settlement or to select a deferred settlement option which provides for payment of the proceeds over a period of years. In many cases, it is unwise to have the entire insurance proceeds paid at once to a widow or other family member who may not have the ability to manage the funds. On the other hand, the deferred settlement options are generally inflexible and cannot ordinarily be changed in any manner after the death of the insured, even though the payments provided for under the option prove to be insufficient for family care.

The answer to this problem can often be resolved through the creation of a life insurance trust under which the insured designates a corporate trustee to receive the policy proceeds in lump sum and retain and administer the funds for the benefit of the insured's family. The insurance trust agreement can delegate to the trustee broad discretionary powers to vary disbursements to the family in accordance with its needs. Thus income and principal can be used to cover the varying costs of the children's education. Financial crises such as are caused by accident or severe illness can be met through emergency distributions from the trustee. Insurance companies cannot provide this degree of flexibility.

The life insurance trust also affords continuous management for the insurance estate, including investment supervision. And finally, under the terms of the trust, provision can be made for the ultimate distribution of the remainder of the trust fund in accordance with the wishes of the insured.

TRUST INVESTMENTS

Trust men are frequently asked questions with respect to the latitude and freedom of trust departments in making investments. In fact, in a survey conducted

by the Trust Division of the American Bankers Association, it was found that more questions were raised on this subject than on any other one. Many of them indicated some degree of misunderstanding about trust investments.

In Kansas, the trust departments of both national and state banks may invest in such assets as are provided for by the statute of the state unless restricted by the terms of trust. In the past 16 years much progressive legislation pertaining to trustees has been enacted in Kansas, including an act defining investments they may make, cited as G.S. Kansas 1953 Supp. 17-5004. A number of states have a similar law, based upon a concept originating in a decision of the Supreme Judicial Court of Massachusetts in 1830 which stated:

"All that can be required of a trustee to invest is that he shall conduct himself faithfully and exercise a sound discretion. He is to observe how men of prudence, discretion, and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income as well as the probable safety of the capital to be invested."

It has been well established that the Massachusetts "prudent man" concept includes a conservative portion of carefully selected common stocks. In fact the Kansas law includes ". . . bonds, debentures and other corporate obligations, and stocks, preferred or common . . . ." It also includes mutual funds registered under the Federal Investment Company Act of 1940, other types of personal property, and real estate.

In selecting investments, the trustee must consider the purpose of the trust, either express or implied. Investment policy will vary from the trust in which conservation of principal is paramount, to the one in which maximum income is the prime objective, to the one in which long range accumulation and growth is indicated. Diversification in corporate investment must be emphasized as to industry, corporation, and type of security. In the selection of investments with a fixed date of maturity, careful consideration should be given to relating such maturity dates to the needs and terms of the trust.

Most corporate trustees use high quality common stocks to a conservative degree. This policy during the inflationary period our economy has been experiencing has proved highly beneficial to trust customers. One need only look at the performance of stocks of leading corporations over the last decade, or even the last year or two, in order to clearly see how such stocks have protected the purchasing power of the dollar.

OTHER TRUST SERVICES

Bank trust departments perform a number of services other than acting as executor under wills and trustee under the various types of trust arrangements.

Busy physicians often need the services of a "financial secretary." This service is available through an Agency Account under which the physician and his family may be relieved of as many of the burdens of property management as may be desired. Securities and other assets of value are deposited with the bank in accordance with the terms of an agency agreement under which no rights or title are relinquished. The account may be cancelled at any time. Assets are carefully maintained under dual vault control; interest, dividends, rents, and other income are collected; maturing securities are presented for payment; rights in new stock issues, reorganizations, and similar situations are called to attention; complete accounts are maintained from which tax returns may be prepared; bills may be paid and income may be distributed in accordance with directions furnished. Services performed may be just as broad or as limited as the physician desires.

In closing business transactions the service of a trust department as escrow agent is frequently recommended by lawyers. Valuable documents such as deeds, bills of sale, securities, money, or other property are held until the conditions of the agreement are fulfilled, at which time the escrow agent delivers the documents and funds to the persons entitled to them. When an escrow agent is used, the terms of a contract for the purchase and sale of property can usually be completed even though the death of one or more of the parties intervenes.

Bank trust departments frequently serve as guardian of estates of minors or incompetents. Many corporations employ the facilities of a trust department to serve as transfer agent and registrar for stock issues, trustee under bond indentures, paying agent for bond principal and interest and dividends on stock.

In closing, I wish to express a personal thought which arises in a large measure from my observation of men who have seen to it that their financial affairs were brought to an optimum of good order. The knowledge of an estate well planned for his family's welfare brings a deep sense of satisfaction to a man which is a real contribution to his peace of mind. But the satisfaction and peace of mind thus coming to a man during his lifetime may, after he is gone, be far exceeded by the satisfaction and freedom from worry experienced by his loved ones through the operation of an estate well planned.

National Bank of Topeka
Topeka, Kansas

The Doctor and His Tax Problems

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The professional man in private practice finds little opportunity to take advantage of "fringe benefits." It is perhaps the lack of "fringe benefits" which makes his income taxes proportionately higher than those of corporate officers and employees. The use of company cars, expenses paid for attending sales meetings in certain geographical areas which provide good fishing, good hunting, and relaxation, stock options, availability of clubs—all of these and many more are usually beyond the grasp of the professional man.

The answer to the professional man's tax problems does not lie in the use of "tax gimmicks." His answer must be found in proper tax planning, present and future. He must utilize all advantages afforded to him by the revenue laws. Many income tax savings are insignificant when standing alone; however, if such savings are combined, then the total result can be most gratifying.

In the preparation of this article I find it difficult to set any definite rules for tax savings because the age of the individual and his financial and marital status must be considered before a given rule of tax saving can be achieved. This can best be exemplified by comparing the tax problem of a young physician with the tax problem of a seasoned practitioner as relating to the purchase of new equipment.

The young man just starting in practice can anticipate a possibility of having less income in the first few years of his practice. This being true, it would follow that the utilization of the "accelerated depreciation" provisions of the 1954 Internal Revenue Code may be to his disadvantage in that the increased "deduction" for depreciation would offset income taxed in a low tax bracket. On the other hand, depreciating the new equipment without using the accelerated depreciation provision would make available a deduction for depreciation at a time when he might be in a higher tax bracket due to the realization of more income from an established practice. To an individual well established in his practice, the accelerated *current* deduction for depreciation may be more advantageous. Thus, the election to use the accelerated depreciation provisions depends upon the circumstances of the particular individual.

Another simple but often overlooked tax saving can be achieved by the receipt of dividends on stock purchased. The first $50 of dividends received in a taxpayer's taxable year is exempt. A husband and wife can obtain $100 in dividends tax free. These savings are not large; however, if you are in a 40 per cent bracket you must earn $166.67 from your practice in order to have the same after tax dollars as the $100 received in the form of dividends. In addition, on all dividends received in excess of $100, you are entitled to a credit against tax equal to 4 per cent of such excess dividends, subject to a few limitations defined in the law. (Note the 4 per cent credit is an offset to *tax,* not income.)

Then there are possible tax savings through the use of short term trusts.

A doctor having the responsibility of fatherhood, among his many other responsibilities, must accumulate sufficient wealth to meet this responsibility. Increased costs of higher education indicate that a wise father will begin early to set aside part of his income to meet this prospective financial burden. Some doctors may have already acquired property and are considering earmarking its income for the education of their children. By retaining ownership of the property, the income that is not tax exempt will be taxed to them. The amount of income retained by the doctor, after income taxes have been paid, will depend upon his income tax bracket. The doctor whose top federal income tax bracket is 50 per cent, retains only 50 per cent of the property's net income after taxes. This is based upon the assumption that the property's net income falls within the top tax bracket. No doubt the doctor in this case would like to reduce the tax on such income. He could transfer the property to those of his children in lower income tax brackets. However, the idea of permanently giving away property does not appeal to those persons who feel that their property holdings may be needed for their future security. A short term trust may provide the answer.

The short term trust has two objectives, tax-wise. One is to divert income from a high bracket taxpayer to one in a lower bracket. The other objective is to eventually return the trust property to that person who made the transfer into trust, thereby restoring to him the property and its income.

There are many variations as to how a short term trust can be operated which will prevent the income

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from being taxed to the grantor. One form may be as follows:

A doctor creates a trust naming his child as beneficiary and himself as trustee. Property owned by the doctor is transferred to the trust. The trust is to end 10 years after the transfer of the property or the death of the beneficiary, whichever occurs first—the lapse of time can be no less under the Internal Revenue Code unless the trust income is for a charity. Upon the trust's termination, the property is to be returned to the doctor. As trustee, the doctor may, in his discretion, accumulate the income from the trust property or distribute it to the beneficiary. Any current or accumulated income of the trust must be distributed to the beneficiary or the beneficiary's estate when the trust is ended. During the time the trust is in existence, the doctor, as trustee, may sell or trade the trust property and reinvest the proceeds for the trust's benefit. However, the doctor cannot deal with the trust property in a non-fiduciary capacity, such as selling or trading the property for less than adequate consideration. Neither may the doctor have the power to change beneficiaries or the amount the beneficiary is to receive. Support and maintenance of the child, which the father is legally obligated to provide, cannot be paid out of the trust income. To the extent the trust income is so used, it will be taxed to the father.

Assume the doctor accumulates the trust income during the entire period of the trust at the rate of $1,000 per year before federal income taxes. Annual federal income taxes would be $180, leaving $820, or $8,200 over the 10-year term of the trust. Had the doctor retained ownership in the property, assuming his top tax bracket was 50 per cent, only $5,000 would be left to use for his children's college education.

Placing property in short term trusts creates gift tax problems. While the Internal Revenue Service has not stated how it would value such a transfer, the rule seems to be, in the case of a ten-year trust, that there is a gift of 30 per cent of the total fair market value of the property transferred.

Should the doctor die while the trust is still in existence, the value of his interest in the trust property would be included in his estate.

The short term trust does offer an opportunity to save income taxes for the family unit, but care must be taken in drawing the trust instrument to avoid taxing the grantor on the income of the trust property and thereby losing the tax savings.

A trust may be used in another manner to save taxes or, more correctly, to postpone taxes.

In the state of Montana a group of doctors formed an association to handle the affairs of a clinic. They treated the association as being similar to a corporation and taxable as such. The doctors became employees of the association, receiving salary and bonuses. A pension trust fund was created, the association making payments to the trust on behalf of employees who had been employed by the association for three years and were over 30 years of age.

The tax advantages of a qualified pension trust arrangement are several. Payments made by the employer are deductible. The payments are not taxable as income to the employees until the trust actually makes payments to them. Income is not taxed to the pension trust, it qualifying as a tax exempt trust.

This means that when these Montana doctors reach retirement age they will receive periodic payments in accordance with the trust provisions. The doctors report the payments at that time. Generally, this results in payments being taxed in a lower income tax bracket than if the payments had been made to the doctor while he was still working.

But all was not tranquil. The income tax return of one of the association's doctors was examined by the Internal Revenue Service. As a result, the Commissioner of Internal Revenue ruled that association payments to the pension trust were taxable to the doctor to the extent of the doctor's share in the total payments. This was based upon the Commissioner's theory that the association was a partnership rather than a corporation. Pension trust provisions of the Internal Revenue Code cover only employees, and partners are not considered as employees. An alternate position of the Commissioner was that the Montana pension trust was discriminatory as to some clinic employees. It seems that under the trust provisions, few association employees, other than the doctors, qualified as participants in the pension trust plan. Contributions to a discriminatory pension trust are taxable to the employee at the time the employer makes them, if the employee has unqualified right to his share of the pension trust. A discriminatory trust is also not tax exempt.

The doctor took his case into federal district court and won. Appeal was made by the Commissioner to the Court of Appeals for the Ninth Circuit; however, the Court of Appeals followed the district court and held that the association was taxable as a corporation, the payments to the pension trust were deductible by the association, but not taxable to the doctor, and, the trust did not discriminate against certain employees.

The Court of Appeals further said that state law, prohibiting the incorporation of a medical practice, did not prevent an association of doctors from being taxed as a corporation where the association had many corporate characteristics.

In planning a pension trust many variations are

available. One plan might be to base the retirement payments an employee is to receive upon his average annual salary during the last 10 years of his employment. The total fund needed for all qualified employees is actuarially determined. Then the employer (association) makes present contributions to the trust in such amounts as will take care of the future retirement payments. This also can be actuarially determined. The possibility of creating an association taxable as a corporation merits exploration by clinical practitioners.

Because taxpayers often ask what they should do when a revenue agent comes to examine their returns, I will deviate from tax saving plans, as such, and suggest the following course of conduct for your consideration:

1. Be courteous to the examining officer. Make an attempt to provide adequate working space for him and have records and facts available which will conserve his time and your time.

2. Make arrangements with the agent, requesting that conferences be held at a minimum, thus conserving your time.

3. Carefully weigh statements made by the agent. Many times their statements are based on Bureau rulings rather than law.

4. Review all figures in detail.

5. Before signing any "proposed deficiencies or proposed overassessments" make sure that you fully understand the significance of such signing. By signing a proposed deficiency you lose your right of litigating the issues before the Tax Court and must pay the deficiency proposed. Upon payment of the deficiency you may file a refund claim, and if such claim is denied, then you may litigate the issues in the Federal District Court or the United States Court of Claims. The proper choice of courts can have a material effect upon the final conclusion of a case.

A field of taxation which has been grossly neglected is that of estate planning. Many false concepts exist as to what assets are properly includible in the federal estate tax return and subject to estate tax. It should be noted that all property held as joint tenants with right of survivorship is subject to estate tax in a decedent's estate to the extent that the decedent contributed funds to its acquisition. For example, assume:

1. All income derived by a husband and wife is earned through professional services rendered by the husband.

2. The husband and wife purchase a home and take title as joint tenants with right of survivorship (such as "John Doe and Mary Doe as joint tenants with right of survivorship").

3. The home is paid for out of the husband's earnings.

Under these conditions, upon the death of the husband, the entire fair market value of the home, less any liabilities, would be subject to estate tax. Under the foregoing assumption, the same principles would apply to any property, real or personal, which is held in joint tenancy with right of survivorship. It should be pointed out that by holding title in joint tenancy with right of survivorship the expense of probate, as to property so held, is usually eliminated. Whether property should be placed in joint tenancy with right of survivorship requires a complete analysis of one's assets and liabilities. An estate analysis will produce answers to various questions such as:

1. Are the objectives of the individuals concerned achieved?

2. Does the estate tax saving more than offset the probate cost?

3. Is proper recognition given to the marital deduction?

4. Is a devastating estate tax being created on the wife's estate, assuming the husband predeceases the wife?

It is not intended to imply that a minimum estate tax is the sole criterion of estate planning. A person's wishes and desires as to the devolution of his property should be fulfilled. However, it should be done with a maximum conservation of his assets. This can be done through proper estate planning.

One of the reasons that estate planning has been neglected lies in the fact that individuals fail to realize that many of the assets they have acquired now have an inflated value. They are prone to think in terms of "costs" rather than in terms of "fair market value." The estate tax is computed by applying estate tax rates against the fair market value of a decedent's assets as of the date of his death, or as of one year after his death. In estate planning one must think in terms of today's "fair market value."

Usually in income tax planning and estate tax planning, one is confronted with the problems of making gifts. A transfer of any property for less than adequate and full consideration may result in a gift which in turn could create liability for gift taxes. The amount to report for gift tax purposes would be the fair market value of the property transferred as of the date of the transfer.

Gift tax laws provide that the first $3,000 given to any person by a donor during a calendar year, and subsequent calendar years, is not to be included in the total amount of gifts made for such year. Thus, Mr. A, a single man, could give as much as $3,000 to R, $3,000 to B, $3,000 to T, etc., without becoming liable for filing a gift tax return or the payment

of gift taxes. In addition, the gift tax laws allow each donor a specific exemption of $30,000. All this may be absorbed in one year or spread over numerous years. Thus, in a calendar year Mr. A may give $3,000 to R, $18,000 to S, and $18,000 to T, without incurring gift tax. At this point Mr. A will have used his specific exemption ($18,000 minus $3,000 to R plus $18,000 minus $3,000 to T totaling $30,000).

Mr. A's future gifts will be nontaxable only to the extent that a gift to a donee does not exceed $3,000 in any one subsequent calendar year. Thus, Mr. A, after making the foregoing gifts, could in each calendar year thereafter make gifts of $3,000 to R, $3,000 to T, and so on, without incurring gift tax. To this point Mr. A has been considered as a single man. If he should be married, then additional exemptions are available through the provisions relating to "split gifts" and "marital deduction."

Occasionally individuals are of the opinion that gifts during their lifetime are unnecessary since his or her surviving spouse can take advantage of the gift tax provisions. In part this is true; however, the surviving spouse, being single, can soon absorb her specific exemption, thereby incurring gift taxes on additional gifts. Under such circumstances gift tax brackets may quickly approach estate tax brackets. Thus, gifts by the surviving spouse become less desirable. By making gifts while both husband and wife are living, the advantages afforded by the gift tax laws can best be realized with a possible saving in income, gift, and estate taxes.

National Bank of Topeka Building
Topeka, Kansas

More Family Income through Mutual Funds

Clarence W. Glassen

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The statement that "There's nothing new under the sun" can be applied even to investment companies. The present modern form can probably be traced to Belgium in 1882. The idea germinated on the continent until the second half of the 19th century, when interest shifted to Britain. One of the earliest known British investment companies, The Foreign and Colonial Government Trust, was formed in 1868.

In 1875 Arthur Scratchley, noted British financial author, published *A Treatise on Associations for Provident Investment* describing about 20 English investment trusts that were in operation by that time. The objectives of these early investment trusts were similar to those of our present mutual funds. To quote Scratchley, they were "efforts to afford individuals the benefits arising from cooperative action in their investments and some protection against losses to which purchasers are exposed who buy stocks or general securities in an isolated manner—losses which they frequently do not apprehend until they subsequently find it necessary to realize at a time when some particular stock is depressed in value."

The trust "places the investor of moderate means on the same footing as the large capitalist by diminishing the risk of investment over a number of stocks. "Each member would receive greater benefit with much more security from loss by the distribution of the risk over a large average."

Securities purchased by these first investment companies consisted of bonds of British, colonial, and foreign governments and municipal bonds or bonds and debentures of railroads, telegraph and cable companies, gas and water utilities.

Each issue of investment company stock (some companies put out subsequent issues) was practically a fixed portfolio with no power of substitution or reinvestment. Each issue was to be liquidated at a specified future time such as 20 or 24 years. Actuaries had computed 24 years as ample time to afford good capital gains with comparatively high income.

These investment trust shares proved a satisfactory investment with good average income in spite of default of some of the bonds and debentures owned. Regrettably, some of the greatest defaults occurred on bonds of some of our southern states and of early American railroads.

In spite of economic disadvantages and the setback of two world wars, the English investment companies have profited by their world-wide investment, interlocking directorates of specialists in local and foreign economics, and 80 years of experience and improvement, and they are still a favorite medium of investment in Britain.

During the 1880's the investment company idea gained wide public acceptance in Scotland. The thrifty

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Scots took readily to the idea of pooling the savings of thousands of individuals, diversified their investments all over the world, and hired professional managers to handle the portfolio.

Of course under the Scots these investment companies were developed along conservative lines. They had income in mind above anything else. Since taxes in those days differed from the type of taxes we have in this country today, they would leave profits in the company, and some of them even held back part of the income to build up their reserves.

Most if not all investment companies in this country are taxed as regulated investment companies whereby income and realized profits are not taxed to the trust if fully distributed to shareholders. Therefore, it is important that shareholders of investment companies reinvest dividends and capital gains in additional shares unless they need it for current living expense.

The earliest investment company in this country was started in 1893 and was a family affair. This trust started with little more than $100,000 and by now has built up to several million. The important thing about this trust is that it has paid dividends every year since its inception.

Some of the early trusts were too conservative to suit the speculative minded Americans, and this led to reckless creations in the early 20's. The public lost large sums of money through undue risks taken for quick profits that did not materialize.

During the last quarter of a century investment companies have become very popular, and much of this is due to voluntary and federal regulations and restrictions placed on them. The Securities and Exchange Commission was set up by Congress in 1934. Through its studies the Investment Company Act of 1940 was created and passed by Congress. Before a new investment company can begin business, it must have at least $100,000 in net asset value. A diversified investment company may have no more than five per cent of its assets invested in any one security other than government bonds. Independent audits are required, and semiannual and annual reports are furnished shareholders.

The shares of the investment company must be registered with the Securities and Exchange Commission, but this registration does not carry its seal of approval. That is why the following is found on any prospectus, "These securities have not been approved or disapproved by the Securities and Exchange Commission nor has the Commission passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense." No attempt is here made to cover all that the Investment Company Act of 1940 embodies, since to do so would take several pages.

Since passage of the Investment Company Act of 1940, mutual fund distributors have made great strides in educating the public to the benefits to be received through diversified investment in many companies (not over five per cent in any one), selected by skilled investment advisors with continuous supervision. It would take practically all of any one investor's time to evaluate the changing status of stocks owned and of other good stocks, but diversified investment gives a greater return of income or greater probabilities of growth.

There are two types of investment companies, the closed-end and the open-end. The closed-end company does not issue new shares, its shares are usually listed on securities exchanges, and shares of these companies are bought and sold like any other securities. Open-end companies issue new shares to fill orders, but they must stand ready to redeem their shares at whatever their value may be at any time.

There are several kinds of open-end trusts. Some are diversified bond trusts, some are diversified bonds, preferred and common stocks, others are diversified common stock funds, and still others are diversified stocks of companies in the same industry.

Mutual investment funds are designed to fill the needs and desires of investors in every walk of life. An investor's purpose in acquiring shares of a mutual fund may be to satisfy a desire for any one or more of the following: to build an estate, to increase income, to educate children, to build a home, to travel, or for many other things.

An x-ray of a group of mutual fund investors discloses that they are small business proprietors, executives, office workers, professional people, manual workers, retired persons, churches, schools, estates, and many others.

Many investors, however, plan for their financial future with less care than they plan their vacation trips. When the Californian decides to drive east, or when the New Yorker starts out for the golden state, the first thing he does is get a road map and plan the route he intends to follow.

By planning an investment program through a

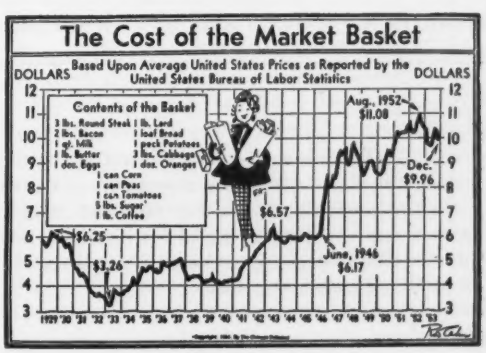
The Cost of the Market Basket
Based Upon Average United States Prices as Reported by the United States Bureau of Labor Statistics
DOLLARS
DOLLARS
Contents of the Basket
3 lbs. Round Steak
2 lbs. Bacon
1 qt. Milk
1 lb. Butter
1 doz. Eggs
1 lb. Lard
1 loaf Bread
1 peck Potatoes
3 lbs. Cabbage
1 doz. Oranges
1 can Corn
1 can Peas
1 can Tomatoes
5 lbs. Sugar
1 lb. Coffee
Aug., 1952 $11.08
Dec. $9.96
$6.57
$6.25
$3.26
June, 1946 $6.17
1929 '30 '31 '32 '33 '34 '35 '36 '37 '38 '39 '40 '41 '42 '43 '44 '45 '46 '47 '48 '49 '50 '51 '52 '53

Figure 1

mutual fund which invests in a diversified list of securities, the investor gets the full benefit, as a shareholder, in all that the mutual fund does. He gets all of its net income, not just a predetermined amount. He gets profits when they have been realized, and these are not predetermined either.

The price of things you want to buy do not have a predetermined cost, as will be seen on the accompanying chart (Figure 1). Here is a list of groceries —the contents of a market basket. A pound of coffee, a dozen eggs, a peck of potatoes, or any other item in the basket is the same today as it was many years ago and will be in the future. Something is changing, so it must be the thing you are exchanging for what you want.

Another thing that does not have a predetermined value is the dollar, as shown in Figure 2. For the past 120 years, purchasing power of the dollar has

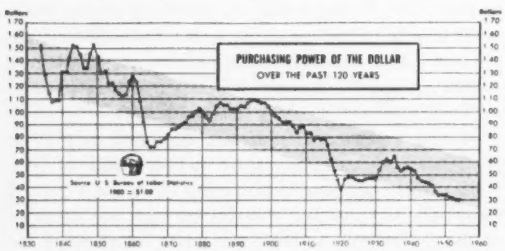

Figure 2

shown a downward trend. In almost every generation people who depended upon dollar savings alone, for retirement or other future uses, ended with less buying power than they thought they'd have. In 1900, for example, it took $1.52 to buy what $1.00 would have bought in 1834. And today you need $1.86 to purchase what $1.00 bought in 1939.

History shows that people who depend only on "fixed" dollars in planning their financial future are actually gambling that the buying power of the dollar will not decline. Mutual funds help people avoid this risk by planning an intelligent use of their money no matter what happens to the value of the dollar.

Figure 3 shows some figures on a mutual fund for the past 10 years. These figures were not predetermined. One column shows the regular annual dividend income and one column shows the annual capital gains or profits realized. The figures show the 10-year result on an investment of $1,000 in December 1944 and through to December 1954. While these are actual figures for the 10-year period, they should not be construed or accepted as the results to be accomplished in any future period since future periods may show less favorable or more favorable results.

Year	Regular Income	Capital Gains	Investment at 3%
1945	$15.02	$22.42	$30.00
1946	28.19	26.53	30.00
1947	33.76	25.25	30.00
1948	41.17		30.00
1949	42.99		30.00
1950	42.38	19.35	30.00
1951	51.23	57.64	30.00
1952	43.92	64.94	30.00
1953	39.34	46.65	30.00
1954	38.41	62.21	30.00
Ten year Totals	$376.41	$324.99	$300.00

Figure 3

A mutual fund is an investment company whose sole business is to invest its shareholders' money in a diversified list of securities and manage these investments for a fee. In my opinion a mutual fund is more than just an investment. It is an investment program whereby an investor receives several benefits:

He receives a quarterly dividend from many securities.

He receives capital gain distributions in those years when profits have been realized from sale of securities.

He has diversification of investment in many American industries. When he has additional funds to invest he doesn't have the worry of finding another stock, bond, or mortgage; he can continue to increase his income by making additional purchases of the same mutual fund.

He has peace of mind with all of this since the securities have constant professional supervision.

Mutual Distributors, Inc.
1016 Baltimore Avenue
Kansas City, Missouri

The manifest destiny of America is to help the peoples of the world. . . . To do so, we must be bold and imaginative in our thinking. Abroad, we must be willing to accept a world filled with diversities and build our alliance with friends whose ideas we may not be willing to accept for ourselves. At home, we must practice the tolerance that the Bill of Rights champions. We must be willing to meet an idea at the level of argument and counter-argument.

—*William O. Douglas*

U. S. Savings Bonds—A Good Investment

George C. Rankin

Topeka, Kansas

The physician, the surgeon, the nurse, and the laboratory technician are people of more than average intelligence in whom rigorous training has developed special and valuable skills and informed judgment. It does not follow, however, that they are better judges of investments than the average citizen. That is why it is wise to consult men of informed, sound financial judgment when selecting investments.

The expert in the bank is concerned first with safety of the investment, second with its probable yield, and not at all with its likelihood of making the investor rich quickly. The banker does not recommend North Pole Gold Mines, Ltd., or Assorted Uranium, Inc. He would not pick up highly speculative stocks with a pair of tongs. The bright boys who use long distance phone calls, telegrams, direct mail, and personal calls to invite professional people in on the ground floor of a sure thing are careful to stay away from bankers. Lists of doctors, dentists, and other professional workers can be copied out of the local telephone book—and that is where the sellers too often strike pay dirt.

The wise investment counselor recommends what he calls "a diversified portfolio" made up of life insurance, sound common stocks including the "blue chips," and U. S. Savings Bonds. This article will discuss the investment values of Savings Bonds.

First and foremost, these bonds are safe. The principal and interest are guaranteed by the United States Treasury, which has never failed to pay its obligations in full since Alexander Hamilton established that policy. After the Revolution, the bonds of the young republic were selling on the market at a fraction of their face value, and there were advocates of paying them off at the market price. The first Secretary of the Treasury was firm against this. His action set up the credit of the United States at home and abroad, and that policy has never been changed.

Savings Bonds are not subject to market fluctuations. You can look on the back of the bond and tell exactly what it will be worth and what interest it will pay throughout the life of the bond.

If Savings Bonds are lost, stolen, or destroyed, the Treasury will replace them. This makes them safer than currency. In time of need it is easy to convert E bonds into cash, once they are two months old. Series H bonds can be cashed at par—exactly what you paid for them—at any time after six months from issue date, on one month's written notice. H bonds, in denominations of $500 to $10,000, are investment bonds for a long term. To get cash for an E bond after two months from issue date is simply a matter of walking into a bank with the bond and proper identification.

There is no point in buying E bonds with money that should be in your savings account or checking account at the bank—money that you expect to check out within a few weeks or months. Putting into E bonds surplus cash that you *might not* spend may help you to save it, of course. Most people think twice before cashing a bond.

The E bond, selling at 75 cents for each dollar of maturity value, is designed to reward those who hold their bonds. The yield rises with each half year until at maturity, 9 years and 8 months from issue date, it is 3 per cent, compounded semiannually, for the whole period. All maturing E bonds may be automatically extended for up to an additional 10 years at the 3 per cent rate compounded semiannually, accruable each six-month period. At the end of the extension period, the cash value will be 180 per cent of the purchase price. That figures out slightly above 4 per cent simple interest over a 19-year-and-8-months' period. Where else can you find a completely safe and sure investment yielding 4 per cent for nearly 20 years? (On E bonds issued from May, 1941, through April, 1952, the yield is slightly less.)

The over-all yield plus safety has caused millions of bond owners to hold onto almost three out of every four dollars worth of E bonds that have matured so far. The sum of these retained bonds was nearly $13 billion in mid-1955, or about one-third of the total holdings of E bonds. Since all of these holdover bonds had been held from 10 to more than 14 years, the result indicates a lot of satisfied investors who had plenty of time to think it over.

The tax saving feature of E bonds is attracting many investors and is undoubtedly an important factor in the fine acceptance of the automatic extension privilege. Being so-called "discount" bonds—increasing in value each six months—income taxes on the increase need not be paid until the bond is cashed. Many people are holding the bonds until retirement when it is generally assumed they will drop to a lower income level, and at age 65 attain the double exemption privilege. Tax savings on bonds cashed

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under the combination of these two conditions can represent quite an item.

If you cash an E bond before it is six months old, you are giving up an investment yield of 3 per cent to maturity on the amount of money you would get back—which at that point is just what you put in. The yield and the cash value rise each six months thereafter until in the period between 9 and 9½ years the yield reaches 4.94 per cent. It really pays to hold those bonds, even though the interim rate was greatly increased in 1952.

The Series H bond, sold since mid-1952, is a practical twin of the E bond except that it pays interest by check each six months instead of adding the interest to the cash value as the E bond does.

Series H bonds are a particularly good investment for those who are looking forward to retirement and for those who for any reason want current income from an investment. The postman brings the interest check twice a year. The response of investors to the H bond offering is gratifying to the Treasury. Sales are mounting steadily, and redemptions are low.

At this point it is perhaps prudent to examine the Series H bond more closely in view of its relative newness. The Series H current income bond first became available in 1952. It was developed as a companion piece to the Series E bond, the big difference being that the holder of a Series H bond receives an interest check from the Treasury each six months, whereas the interest on a Series E bond accrues and is added to the purchase price each six months. Generally speaking, the average productive person may find the accrual aspects of the E bond more appealing, where an older person, or a retired person, might find the current income feature of the H bond desirable.

The Series H bond is issued in denominations of $500, $1,000, $5,000, and $10,000. It is priced at par and redeemable at par after six months. It matures in 9 years, 8 months from issue date and provides an investment yield of 3 per cent when held to maturity. The Series H, like the Series E, may be owned by individuals only or by personal trust estates. Limit on both series per year per individual is $20,000 (actual value on Series H; maturity value on Series E.) Husband and wife can buy $40,000 per year, and children can be included, increasing the limit by multiples of $20,000 per child.

Savings Bonds have already provided many things for millions of Americans and will continue to do so in the years ahead. The tried and true system of real savings is regularity. A regular investment in Savings Bonds may seem small at the time, but before long the total accumulation can be a welcome surprise.

From such savings come college educations for children, new homes, travel abroad, and happy retirement. Just as important is the ability provided by a backlog of Savings Bonds to meet unforeseen emergencies and unexpected illness.

There is an "extra bonus" to the buyer of Savings Bonds which may be easily overlooked. That bonus stems from the fact that in buying Savings Bonds one is lending a real helping hand to his government in its debt management problems and the maintenance of sound money. Treasury Secretary Humphrey has said about the Savings Bonds program, "Nothing is more important in the Treasury's plans and few things are of greater significance in our whole economy than the Savings Bonds program. It is vital both to constructive management of the debt and the maintenance of sound money."

Nations may win wars and then succumb to the ravages of uncontrolled inflation. The purchase of Savings Bonds by individuals is a highly effective non-inflationary method of debt management. The government's main source for borrowing money comes from individual Americans and through our banking system. Because of the peculiarities of monetary and credit effects, funds borrowed by the government from the banking system create new money, thus adding to inflationary pressures, whereas funds borrowed from individuals have the reverse effect.

When the government borrows money from the people by selling them Savings Bonds, it receives the money to spend for defense and other necessary costs of running the government. The people have the bonds, which are good investments and a safe way to put money to work to earn interest until it is needed. In that kind of borrowing, there are the same number of dollars in circulation after we have bought the bonds as there were before. We have the bonds—the government has the dollars. That is non-inflationary because there has been no increase in the money supply.

Now if individual citizens do not put their savings into government bonds either directly—as one does

SAVE EACH MONTH	AND YOU WILL HAVE				MATURITY VALUE, 9 years and 8 months from issue date	EXTENDED MATURITY VALUE, 19 years and 8 months from issue date
	In 1 year	In 5 years	In 9 years & 8 months	In 19 years & 8 months		
$ 37.50	$ 451.20	$ 2,365.20	$ 4,913.40	$ 11,841.00	$ 5,800.00	$ 15,892.24
75.00	902.40	4,730.40	9,826.80	23,682.00	11,600.00	31,784.48
150.00	1,804.80	9,460.80	19,653.60	47,364.00	23,200.00	63,568.96
375.00	4,512.00	23,652.00	49,134.00	118,410.00	58,000.00	158,922.40

UNITED STATES SAVINGS BONDS—SERIES E
TABLES OF REDEMPTION VALUES AND INVESTMENT YIELDS DURING ORIGINAL MATURITY PERIOD

(Based on a $100 Bond, issue price $75)
Bonds issued May 1952 and after

Period After Issue Date	Redemption Value during each half-year period	Approximate Investment Yield on purchase price from issue date to beginning of each half-year period
		Per cent
First ½ year	$75.00	0.00
½ to 1 year	75.40	1.07
1 to 1½ years	76.20	1.59
1½ to 2 years	77.20	1.94
2 to 2½ years	78.20	2.10
2½ to 3 years	79.20	2.19
3 to 3½ years	80.20	2.25
3½ to 4 years	81.20	2.28
4 to 4½ years	82.20	2.30
4½ to 5 years	83.60	2.43
5 to 5½ years	85.00	2.52
5½ to 6 years	86.40	2.59
6 to 6½ years	87.80	2.64
6½ to 7 years	89.20	2.69
7 to 7½ years	90.60	2.72
7½ to 8 years	92.00	2.74
8 to 8½ years	93.60	2.79
8½ to 9 years	95.20	2.83
9 to 9½ years	96.80	2.86
9½ to 9 years and 8 months	98.40	2.88
Maturity Value (9 years and 8 months from issue date)	$100.00	3.00

by buying Savings Bonds—or indirectly—through such media as life insurance companies, pension funds, etc.—then the government must get the money it needs to make up deficits or to meet refunding requirements of maturing obligations from some other source. Such other sources result in an increase in the money supply without a corresponding increase in consumer goods.

This is a complicated subject, but the thing to remember is this: When we buy United States Savings Bonds we are lending the government money in a way that does not produce inflation, and each dollar we lend the government in this manner cuts down the number of dollars it has to borrow from sources which are inflationary.

So, when you buy Savings Bonds you not only are putting your money into the world's safest investment; you are also exercising a high degree of good citizenship. A financially strong and secure America is necessary to the safety and security of our homes and all our investments. Buying Savings Bonds applies a brake on inflation. They help to keep the value of our money stable. They aren't for gamblers who are looking for the "fast buck." Rather, they are for the man who is thinking ahead, thinking about his wife, his family, and the uncertainties of the future. There are many such men in America, as evidenced by the fact that some 45 million individuals own Savings Bonds in record amounts. Series E and H holdings of approximately $40 billions is an all-time high, higher than at any time during World War II.

Where do you buy Savings Bonds? Banks issue them without charge to either the purchaser or the

UNITED STATES SAVINGS BONDS—SERIES E
TABLE OF REDEMPTION VALUES DURING OPTIONAL EXTENSION PERIOD

(Based on a matured $100 Bond)

Period After Maturity Date	Redemption Value during each half-year period	
	On Bonds matured May 1951-April 1952	On Bonds matured May 1952 and after
First ½ year	$100.00	$100.00
½ to 1 year	101.25	101.50
1 to 1½ years	102.50	103.00
1½ to 2 years	103.75	104.50
2 to 2½ years	105.00	106.00
2½ to 3 years	106.25	107.60
3 to 3½ years	107.50	109.20
3½ to 4 years	108.75	110.80
4 to 4½ years	110.00	112.40
4½ to 5 years	111.25	114.00
5 to 5½ years	112.50	115.80
5½ to 6 years	113.75	117.60
6 to 6½ years	115.00	119.40
6½ to 7 years	116.25	121.20
7 to 7½ years	117.50	123.00
7½ to 8 years	120.00	124.80
8 to 8½ years	122.67	126.60
8½ to 9 years	125.33	128.60
9 to 9½ years	128.00	130.60
9½ to 10 years	130.67	132.60
Extended Maturity Value (10 years from original maturity date)	$133.33	$134.68

Investment Yield: Approximately 3 per cent for each half-year period on bonds matured May 1952 and after. Bonds matured May 1951-April 1952 earn simple interest on the face amount, at the rate of 2½ per cent, if redeemed during the first 7½ years and thereafter at a higher rate sufficient to provide an aggregate return for the 10-year extension period of about 2.9 per cent compounded.

UNITED STATES SAVINGS BONDS—SERIES H
TABLE OF INTEREST CHECKS AND INVESTMENT YIELDS

(Based on a $1,000 Bond)

Period of time from issue date	Amount of each interest check	Approximate Investment Yield on Face Value from issue date to each interest payment made
		Per cent
½ year	$ 4.00	0.80
1 year	12.50	1.65
1½ years	12.50	1.93
2 years	12.50	2.07
2½ years	12.50	2.15
3 years	12.50	2.21
3½ years	12.50	2.25
4 years	12.50	2.28
4½ years	17.00	2.40
5 years	17.00	2.49
5½ years	17.00	2.57
6 years	17.00	2.63
6½ years	17.00	2.69
7 years	17.00	2.73
7½ years	17.00	2.77
8 years	17.00	2.81
8½ years	17.00	2.84
9 years	17.00	2.87
9½ years	17.00	2.89
9 years and 8 months	17.00	3.00

The Series H Bond provides a safe investment with no risk of market fluctuations. It is sold at par and is cashable AT PAR at any time after 6 months from issue date, on 1 month's written notice. It pays interest to provide an ascending rate of investment return each 6 months with an over-all yield of 3 per cent, compounded semiannually for 9 years and 8 months.

The postman brings the interest check each 6 months.

government, thus performing a fine public service for both the government and their customers. Generally banks will also provide the automatic Bond-A-Month service wherein the customer authorizes the bank to charge his account monthly for the purchase price of a bond. This can be an attractive service to professional people who do not have the payroll savings plan available.

There is a prominent place in almost any investment portfolio for Savings Bonds. Their stability and absolute known values at all times can be a hedge against the possibility of having to dispose of other securities on a low market in case of emergencies. A solid base of Savings Bonds in your portfolio makes it easier for you to call the signals. Be a smart quarterback. If you wish to take a few chances, first be sure you are amply protected by the world's safest investment—United States Savings Bonds!

Federal Building
Topeka, Kansas

Life Insurance as an Investment

Pendleton A. Miller, C.L.U.

Topeka, Kansas

Doctors, along with other professional men, salaried men, wage-earners, and a large portion of businessmen, are constantly searching for some plan of saving and investing money that will provide safety and security for themselves and their families. The Road to Security has always been a rough and hazardous one to travel, and it has, perhaps, been made even more difficult by two world wars and the world's worst depression, all in a brief period of 40 years.

High income taxes and low interest rates, made artificially low by ever-expanding governmental needs, have greatly increased the difficulties. New inventions, new discoveries, wars, business recessions, drouths, floods, earthquakes, hurricanes, tornadoes, cold wars, and many other factors bring sudden and often dramatic changes in the investment problems that confront us.

Always, the safe investment of money has required eternal diligence, far-reaching knowledge and experience, and, as one man put it, "The gift of prophecy, which few people have."

For more than 100 years, life insurance has been increasing in popularity as an investment, and primarily this article will discuss the investment aspects of life insurance. Protection against premature death will be given little consideration.

Doctors have higher than average incomes, but little time to give to problems of selecting suitable investments. Naturally most of them are interested in a simple, fool-proof plan, which, once it is started, requires little future management, time, or attention. For these reasons and for many others, thousands of the most successful doctors in America have become increasingly interested in life insurance as an investment.

We will show how it is possible, when you retire, to receive entirely tax-free an income of $9,000 a year from an investment in life insurance. You will then need investment income. You do not need it when you are at the height of your earnings from your profession, when any investment income you may receive will be taxed at the highest income tax bracket, both federal and state.

LIFE INSURANCE AS PROPERTY

First let us consider a few facts which justify the use of the term "investment" when we speak of life insurance. Property and investments are many things to different people. Property to a farmer usually means farm land, machinery, and livestock. A merchant thinks of a store of merchandise, fixtures, and a building. A manufacturer wants a factory with machinery, inventory, and working capital. If a business enterprise is large, it may secure working capital by issuing mortgages, bonds, preferred and common stocks. A professional man, businessman, salaried man, or wage-earner may think of a home or any of these other types of property.

Life insurance is also property. It is all types of good property combined in one certificate of title,

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The author, who has been in the life insurance business for 37 years, is general agent for Kansas for the New England Mutual Life Insurance Company. He is a past president of the Kansas Association of Life Underwriters and is regional vice-president of the American Society of Chartered Life Underwriters. He was the first man in Kansas, and one of the first 100 in the United States, to be awarded the C.L.U. designation.

commonly called a policy. It is cash in the bank, government and other bonds, farm lands, factories, stocks in America's leading corporations, business buildings, apartment buildings, and homes. It is a diversification of investment through one large life insurance company, so that $100,000 in cash value means the investment of $10 in each of 10,000 carefully selected, different pieces of property.

GUARANTEES VS. PRESUMPTIONS

Any study of life insurance as an investment should include a comparison with other types of investments. But actually there is no satisfactory basis for comparison. Life insurance property is full of guarantees, whereas we can only assume or hope that other forms of property will do certain things. There is no guarantee they will do so. Most investors would gladly pay a premium if they could get the same guarantees attached to the title of their other investments. We can contrast life insurance with other forms of property, and we can argue about the merits of different features, but we cannot compare a guarantee with a presumption, a certainty with a hope.

There has never been a failure of a large, well-established life insurance company, and this cannot be said of any other type of investment. Life insurance provides either a single sum investment, or a systematic installment accumulation plan over a period of years, or, if desired, over the working lifetime —and the results are guaranteed.

Life insurance is the only property which guarantees that our investment will accumulate at compound interest, free from taxes of all kinds during our entire lifetime. It increases in cash value each year, even though no further investment is made.

Life insurance is the only property which guarantees a definite sum of cash at an indefinite future time—just any time you want to call for it, 10 years, 23 years, or 43 years from now—the only property with a guaranteed cash value in the event of a depression or a panic.

A LIQUID INVESTMENT

One of the most desirable qualities of any investment is liquidity. Life insurance has a liquidity which is peculiar to it alone. In spite of this fact, it is usually the last resource the average man is willing to surrender. Even at great personal sacrifice, he continues to pay his premiums. This means that there will be a steady flow of cash in the form of premium income paid to a life insurance company in bad as well as in good years.

Records show that during the depression years 1930 to 1932, life insurance companies of America paid policyholders and beneficiaries $6,169,900,000; during these same three years, the companies received $7,586,082,000 in premium income alone. Income from investments was $2,195,116,000, giving a total income of $9,781,198,000. Even during these abnormal times, the total income of the companies was $3,611,298,000 larger than the amount needed to pay policyholders their cash values and beneficiary payments. In normal times the margin of liquidity is far greater.

In September, 1929, the aggregate value of common and preferred shares listed on the New York Stock Exchange was approximately $90 billion. The assets of the life insurance companies of America were $18 billion.

Less than three years later, the market value of these same securities was approximately $16 billion, and life insurance assets were over $21 billion. This was a decrease of $73 billion for the stock market and an increase of $3 billion for life insurance, with life insurance assets on June 1, 1932, worth $5 billion more than securities on the stock exchange.

During this period the market value of listed bonds dropped from $47 billion to $32 billion, from an average of $97.50 to an average of $77.27, a loss of over 20 per cent.

INSURANCE GUARANTEES

Life insurance is the only property that guarantees a regular income every month as long as we live after we retire.

There is one sure thing—we don't have to buy an afternoon paper to find out how much our life insurance is worth.

We may make an investment in real estate, a common stock, or a mutual fund, believing, or at least hoping that it will increase in value. In the meantime we may believe, or hope, that it will pay a satisfactory yield on our investment. But no other investment is guaranteed to increase in value and none guarantees an income except bonds and mortgages, and the yield on them is small. Only U. S. Series E and G bonds have guaranteed cash values. Even U. S. 4¼ per cent Liberty Bonds once sold on the New York Stock Exchange for $75 per hundred, and in recent years U. S. bonds have fluctuated as much as 10 per cent in market price.

Life insurance is the only property that guarantees to take care of us and our families if we are totally and permanently disabled during our earning years. This is true even though we may have made only a small down payment on the purchase price of the life insurance property we are buying. The disability feature not only waives future payments on the purchase price but, in addition, it pays an income of 12 per cent on the face amount. A $25,000 policy pays an income of $3,000 per year and also waives future payments, which increases the interest rate.

The income of 12 per cent on the face amount and the premium waived may be as much as 700 per cent yield on the investment made up to the time of disability.

A prominent actuary has stated that of 1,000 men, 32 will be totally disabled for at least 5 years between 25 and 60, and 22 will be totally disabled for at least 10 years. It is obvious, therefore, that disability is a real hazard in any investment program.

Life insurance is the only property that is guaranteed to increase in value at death. In event of death in the early years, it multiplies many times in value. Other forms of property shrink in value.

Also, the total received from a life insurance investment is guaranteed to increase 25 per cent to 30 per cent or more through the use of guaranteed installment and annuity options provided in the contracts, while at the same time providing important tax advantages and savings in administrative and settlement costs.

Only life insurance guarantees immediate transfer of property to heirs without deduction for administration expenses, legal fees, and state death taxes, and it is exempt from the claims of creditors. There is no loss of income while the estate goes through probate court.

LIFE INSURANCE A GOOD SPECULATION

Life insurance is a "sure thing," but it is also highly speculative. The speculative possibilities always work favorably to the investor, and never against him. In the event of premature death, the gain is frequently as much as 5000 per cent.

Another speculative possibility is the fact that it is the only property guaranteeing the privilege of borrowing money regardless of business conditions and regardless of the prevailing rates of interest. These cash and loan values are guaranteed at 5 per cent when other forms of property are being offered at perhaps as low as 50 cents on the dollar of their value. At such times money may be worth 50 per cent interest to snap up bargains, when banks may not or cannot make loans at any price.

This provides one of the best inflation hedges there is. Most investment fortunes have been made by those who have been smart enough and patient enough to accumulate cash for the buying opportunities that have always come at periodic times, due to deflation rather than inflation.

During business depression, when you may need money, everyone else also needs money—times of unemployment, low wages, and tight money. These are poor times to sell anything or to borrow money.

Many successful men say they have made more money from their life insurance than their families can ever hope to make. They have done this by using the loan values of their policies to buy fine property which was being sacrificed by someone who was forced to sell for the lack of ready cash. Many also will report that they saved their firms or were able to go into business, through the guaranteed loan values of life insurance. Yes, many fine businesses have been saved from utter ruin because of the living values, as well as the death values, of life insurance.

There are speculative possibilities in other kinds of investments which do not exist in life insurance, but the records seem to indicate these speculative possibilities work against the investor more often than they work in his favor. A well-known speculator once said, "I hope to be right only 51 per cent of the time."

Life insurance guarantees a permanent, lifetime investment for a man and a lifetime investment for his family after he is gone. It eliminates the hazard of frequent reinvestment, and you don't have to worry about it, or give it a second thought. It is important to reduce, as far as possible, the number of investments which must be made, because one bad investment may wipe out the savings of a lifetime, or the profit of several good investments. If a bad investment is made at the end of a lifetime, the result is disastrous indeed. With life insurance available, there is no need for the average man to expose his savings to the hazard of frequent reinvestment. For the average investor it will do a better job than other types of investment.

PRINCIPAL AND INTEREST GUARANTEED FOR 100 YEARS

Life insurance is the only property which will guarantee a definite, fixed income to a wife and children, and even to grandchildren, if we desire, as long as they live, even though they may live to be more than 100 years of age. Both principal and interest are guaranteed long after we are gone, far into the future. It guarantees to pay a definite lump sum of money to such people at such time and in such a manner as we may designate, even after wife, children, and grandchildren are gone.

Life insurance property also provides a tax-free income up to $1,000 per year when the proceeds are payable to a widow or widower under the installment or annuity settlements guaranteed in the policy (1954 Tax Law).

Life insurance can be bought in any convenient amount with a small down payment and with any payment method we desire, but we can stop payments at any time and have full title to the part of the property we have paid for. A $50,000 20-pay life policy with 10 premiums paid is guaranteed to be fully paid-up for more than $25,000. With 5

payments made, it is fully paid-up for more than $12,500.

A 20-year endowment of $100,000 with 5 premiums paid is fully paid-up for $27,000. With 10 premiums paid, it is fully paid-up for $53,000. It will pay an annuity of 10 per cent at age 65 on the net amount of premiums paid during the 5- or 10-year period. Furthermore, the annuity may start at any time you choose. You do not have to wait to age 65.

Dr. Solomon S. Huebner, of the Wharton School of Finance, who has devoted his life to the study and teaching of property and human life values, and to insurance of all kinds, says that life insurance gets a 100 per cent rating on all the attributes of a good investment, and that no other one investment does so. Among these attributes, he lists:

Safety of principal.
Reasonably large and certain income.
Stability of value.
Proper spread of risk.
Possibility of speculative gain.
Convenient denomination and purchase plan.
Convertibility into cash or guaranteed loan value.
Limited taxation.

It is human life value that gives value to all other property. Man is the all-important factor. Bonds and stocks put a capitalized value on the property of a corporation. A life insurance policy capitalizes the human life value of the individual. Man is actually property, and the most important property, in the world. A life insurance policy is merely the abstract of title or the deed which capitalizes this human life value.

The best inflation hedge is the ability to work. In times of inflation, wages, salaries, income from profession, and income from business go up along with the cost of living. So, the most practical inflation hedge, as far as our families are concerned, is an increased investment in life insurance which will provide the necessary funds to take care of the cost of living, whatever it is, for our family in event of our premature death.

For instance, take 66 individuals who became policyholders of one large company in 1950, and who also met death in their first policy year. They paid this company about $14,000 in premiums, and the company paid their families a total of $555,000, or nearly 40 times the amount of the premiums. You don't suppose that any of the beneficiaries felt that their husbands or fathers had made an unwise investment, or complained because they were paid in 50-cent dollars, do you?

If you argue these are extreme cases—let us examine the entire 3,165 death claims incurred by this same company last year. We find these policyholders had paid in some $16,000,000 in premiums. Their policies were in force an average of 22.6 years. In addition, they received $3,000,000 in dividends, which reduced their premiums to $13,000,000. Their beneficiaries received a total of $23,000,000. This means simply that the company paid out more than $1.60 for every $1.00 it received from these policyholders, and there was no income tax or transfer expense in getting these funds into the hands of their beneficiaries.

Through the annuity principle, life insurance dollars will pay a guaranteed income as high as 10 per cent or more on the total premiums paid, and the policy guarantees to do so. No other investment can offer the annuity principle, so no other investment can offer this highly desirable inflation hedge.

Life insurance dollars are always emergency dollars, guaranteed to be available at a time we need them most. They have a purchasing power far greater than an ordinary dollar. Life insurance is generally bought with 50-cent dollars by men and women who are at the height of their earnings, and it goes to work for them when each dollar is worth $3 to $5.

A dollar is worth just a dollar to a housewife shopping for a large family, but it is worth $3 to an old man who has received his last pay-check, and $5 to a widow with a large family. It doesn't make much difference to a widow whether her husband's life insurance was brought with inflation or deflation dollars—provided he left enough life insurance.

Premiums paid for a life insurance policy over a long period of years will be average dollars. Some of them will be cheap dollars, some of them will be high-priced dollars, but only a small per cent of the total investment is made in any one year, unless the policyholder dies prematurely, so we have a fine hedge against both inflation and deflation.

155 YEARS OF INFLATION AND DEFLATION

After every major war there have been sharp inflations, followed in a few years by deflation. This is clearly shown in the cost of commodities for the last 155 years. The record shows that inflations never last a great many years and that deflations are always much more rapid and severe.

The one fact which stands out most sharply regarding inflation is that it has always been temporary. When it exists, it seems that it will never end, but the record is all against that view.

Always in the past there have been plenty of so-called authorities who predicted that things were different and history would not repeat itself, but it always has. Even in 1946, after the current inflationary movement was well started, a dollar would still buy one-third more than it would buy in 1920, which was the peak of inflation after World War I.

Judging from past history, we need deflation

hedges far more than we need inflation hedges. Dr. W. A. Irwin, economist of the American Bankers Association and formerly professor of economics at Washburn University, has compiled a table based on Bureau of Labor Statistics Index of Wholesale Prices (1926 base year shifted to 1800) and inverted to show change in value of the dollar since 1800.

This table shows there were only 21 years prior to 1942 when the dollar would not buy more than 100 cents worth of other property. Before 1942, the longest period of time that a dollar was worth less than a dollar in purchasing power was a period of 8 years from 1810 to 1818 inclusive, due to the War of 1812.

TAXES, YIELD AND LOSSES

There are many things to consider when we weigh the value of any investment, but two great changes have taken place in recent years that have created a "two-horned dilemma" for the average man in attempting to accumulate enough capital to provide adequate security for himself and his family. These two changes are high income taxes and low interest earnings on conservative investments. The advantage of life insurance as an investment, or for the purpose of creating an estate, has been greatly increased by these two changes.

Roswell Foster Magill, nationally known tax expert and former advisor to the Federal Board of Economic Planning, said, "Income taxation is the principal factor preventing the accumulation of an estate of any size. Life insurance is the average man's best hope of enlarging his estate. It will not only assure him the addition of compound interest to his savings, but interest free of taxation to him."

Many investors talk about the high yields they receive on real estate, common stocks, taxable bonds, and other investments, but most of them forget to take into consideration the effect of high taxes on their dividends.

Let's suppose a doctor who is married has some surplus to invest, and decides to buy a conservative 3 per cent bond, perhaps a corporation or U. S. government bond. How much will he be able to keep on the next $1,000 of income? This is what would happen:

Income, Doctor and wife	*Keep*	*Yield*
$12,000	$700	2.22%
20,000	620	1.98%
50,000	410	1.23%

However, the state of Kansas will also want a slice on most investments, and there may be some investment expense.

Interest of 5 per cent or 6 per cent before taxes becomes a yield of only 2 per cent or 2½ per cent in the case of those who have incomes of $50,000 a year or more—and only 2½ to 3 per cent for those who have incomes of $25,000 per year.

What's the use of taking a 5 per cent or 6 per cent risk for less than 3 per cent on your money after taxes? Many leading investment houses regularly issue non-taxable bond lists and stress how wise it is for high-income individuals to buy tax-exempt city and state bonds yielding only 2 to 3 per cent interest.

Interest of 5 per cent or 6 per cent is a poor return if we lose part of our capital from time to time. It was Will Rogers—or was it Eddie Cantor—who expressed so well what millions of men have learned from hard experience, "I am no longer interested in the return *on* my money. I am just interested in the return *of* my money."

A loss of $10,000 capital may mean an actual loss of $15,000 or $20,000 that was earned before income taxes were paid. To replace this loss, we have to earn another $15,000 or $20,000. So, actually, we have lost $10,000 plus a lot of past taxes plus a lot of future taxes—a total loss of more than $30,000 in the highest income tax brackets. Over a period of years there are usually some capital losses. Even if an investor is unusually successful, his net yield will not likely average more than 2 to 2½ per cent.

℞ FOR A DOCTOR'S INVESTMENT HEADACHE

With life insurance, it is possible to invest money at compound interest tax-free for many years, and then collect an entirely tax-free income of over $9,000 per year after age 65.

A prescription for the typical successful physician might go something like this:

Buy enough life insurance to provide minimum security for the family. Then, when there are surplus funds to invest, buy retirement income policies from time to time, sufficient to provide an income of $6,000 to $9,000 a year after age 65.

Let's assume that from age 40 to age 65, an annual investment of $3,600 is made. The following figures include dividends which are not guaranteed but are on a conservative basis:

Results at age 65

Cash Value	$119,338
Total Invested	90,000
Income per year for life	8,895

If he and his wife are both age 65, this entire income is free from income tax and is guaranteed to the doctor as long as he lives; a further guarantee provides that if he does not live for 10 years, the checks will be paid for the balance of the 10-year period to his beneficiary.

If, when he is age 65, his wife should not be living, or if he feels she is well provided for in other ways, and if his children are well provided for

in other ways, he may elect to receive a straight life annuity of $9,756 per year.

He will have other life insurance policies payable to his wife if she outlives him, but if he wishes to provide additional security for her, he may use one of the following options:

$7,850 per year for life guaranteed for a minimum 15⅓ years, or

$7,046 per year for life guaranteed for a minimum 20 years, or

Joint and survivorship annuity settlement payable as long as either he or his wife lives, or

Any of several other income options.

The tax advantages are tremendous. The guaranteed options available 40 or 50 years in the future are almost unbelievably good and are available in no other investment in the world.

Let's compare this with an income of $8,895 from ordinary investments:

Investment	*Rate*	*Income*
$222,375	4 per cent	$8,895
296,500	3 per cent	8,895

With this income from ordinary investments, he and his wife would have the following income tax and spendable income:

Exempt from income tax	$3,290
Income Tax (after $240 credit)	913
Spendable income	7,982

At 2½ per cent compound interest above income taxes, losses, and investment expenses, $8,468 invested each year for 25 years would accumulate $296,500.

A recent survey shows that the average doctor has an annual income of $15,000, so his situation is approximately as follows:

Annual income	$15,000
Net income after taxes	12,000
Living expenses, perhaps	7,000
Life insurance premiums, perhaps	1,400
Investable income, perhaps	3,600

At 2½ per cent an investment of $3,600 a year accumulates $126,000 in 25 years. This amount invested in 3 per cent bonds yielding perhaps 2½ per cent after taxes would provide an annual income of $3,150.

IN GRANDFATHER'S DAY

In grandfather's day—"the good old days"—6 per cent simple interest and 4 per cent compound interest were the rule. First mortgages and building and loan associations paid 6 per cent compound interest, bank savings accounts paid 4 per cent compound interest, and government bonds paid 4¼ per cent. Grandfather kept the interest as he had no income taxes to pay. The cost of living was low, so he could retire on $200 a month, and $9,000 a year was unusual.

The income taxes paid by the average doctor today compounded at 5 per cent would amount to a fortune in 30 years. Taxes on a $15,000 income accumulated for 30 years would give a fortune of more than $200,000. On a $30,000 income these taxes with interest would accumulate a fortune of more than $500,000.

In grandfather's day, an income of $8,895 a year could be secured from an investment of $148,250 at 6 per cent interest. But even at 4 per cent compound interest, he had to save $3,423 per year to accumulate that much money in 25 years. Few people in those days did accumulate enough money to retire, but it was possible, at least theoretically, to do so. A few professional men and some salaried men with high incomes did save and accumulate substantial estates through conservative and systematic investment.

It seems, therefore, that the old ideas of accumulating money and providing financial security for old age are a thing of the past. Now it is difficult even to figure out a theoretical method of providing security for our family and for ourselves, except by life insurance and annuities. Today with an annual saving of only $3,600 per year in life insurance and annuities, we can "turn back the years" to those "good old days" when high interest rates and low income taxes required $3,423 in annual savings for 25 years to produce the same spendable income of $8,895 a year.

ANNUITY BENEFITS

We feel we should ask this question, "Why not let the annuity principle do for us to a certainty what 6 per cent interest was supposed to do for our fathers and grandfathers, but more often did not do?" Here is how it works:

Age 40		*Age 65*
	25 years	
1920's		*Today*
$148,250		$296,500
6%		3%
$ 8,895		$ 8,895
$3,423 per year *then* at 4 per cent with no taxes to accumulate $148,250 in 25 years		$8,468 per year *today* at 2½ per cent after taxes to accumulate $296,500 in 25 years.

Retirement Income Annuity

$3,600 yearly saving to provide $8,895 a year at age 65.
Plus $60,000 immediate estate, increasing to $119,000 at age 65.

Why should a doctor try to save $8,468 a year out of a $25,000 income in order to accumulate enough

capital to live after age 65 in the manner to which he has become accustomed? Certainly he cannot do it with a $12,000 net spendable income. Why not live well as we go along and povide security for ourselves and our families by an easy, certain method? Life insurance, combined with retirement annuities, will permit us to do so, and it is well illustrated by the story of two doctors.

First physician: "Doctor, I wish I could afford to belong to the country club, buy a new Cadillac each year, take my family on expensive vacation trips once or twice a year, and live in the finest part of town in a nice house, the way you do."

Second physician: "I don't see why you can't. You surely have as large an income as I have."

First physician: "Yes, I presume I do, but you have $100,000 worth of life insurance, and I have only $25,000. Unfortunately, I can't pass the examination for more life insurance, and haven't been able to do so for a good many years. Therefore, I have to save every dollar I can so that my family could live properly in event of my premature death. In the meantime, I must deny myself and my family many privileges we would enjoy and could well afford if only I could get additional life insurance."

So, an adequate life insurance program does not impose a burden. It is the best relief from a burden.

The annuity method uses the principal, but a man who is used to a large income would probably use his principal if it were invested in other ways. If a man has only $119,338 accumulated, he will not be happy living on $3,580 a year, which is what he would receive at 3 per cent in conservative investments—and after age 65 he would not want to risk any but conservative investments. If he dips into his principal, he reduces his income and will soon begin to worry for fear he may outlive his capital, as many a man has.

An increase in spendable income of $5,300 a year provided by the annuity would enable a man to do many things for his wife and children while he is alive, instead of trying to exist on $3,580 a year so he could pass on an additional $119,338 to his heirs. He may give other property away and so reduce income taxes, estate taxes, and settlement costs. Living standards and the general welfare of the entire family are improved.

Besides, if he left this $119,338 along with his other estate, there may easily be a shrinkage of 25 per cent—perhaps even 40 per cent or more, depending on the size of the estate—due to increased estate taxes, inheritance taxes, administration costs, and attorney's fees.

However, he is not required to use all of the capital when the policy matures, or any of it for that matter. There are many guaranteed combinations in the retirement income policy which provide for every situation that may occur at retirement age. He may elect to leave part or all of the cash value with the insurance company on deposit at interest (3 per cent now being paid) and take the balance as an annuity. Following are two of many possibilities:

Plan	*Option*	*Amount*	*Income*
No. 1	Interest	$119,000	$3,576
No. 2	Interest	90,000	2,700
	plus Annuity	29,000	2,160
	Total	$119,000	$4,860

If Plan No. 1 is used, there would be a taxable gain of $29,000 at the time this option is selected. The 1954 Tax Law provides that this gain would be divided three ways, one-third in the year the option is selected and one-third in each of the two previous years. This would probably reduce the income taxes to be paid but it would not entirely eliminate them. The Internal Revenue Service, however, has provided a method whereby this tax problem may be avoided or postponed by giving up the right of surrender until a later date.

Plan No. 2 would avoid part of the income taxes. It would also preserve the $90,000 of capital invested in the policy. Income taxes could be postponed by giving up the right to surrender the $90,000 until a later specified date. They might be avoided altogether by giving up the right to cash in the $90,000 at any time. In that event, the proceeds would be paid to the beneficiary at death. Any combination of cash withdrawals, interest income, and annuity settlements may be elected at the time of retirement or at a later date.

Furthermore, under the annuity option that pays $8,895 a year, the capital will not all be used unless he lives to age 75. If he lives 20 years he draws $177,900; in 30 years he draws $266,850. If he takes the 20 years certain and continuous for life option, which pays $7,045 a year, a minimum of $140,900 is guaranteed. If he lives 30 years, it totals $211,350.

In addition to the guaranteed income, there may be dividends during the years certain period of 10, 15, or 20 years. The amount, on the basis of present dividends, would aggregate $6,023 under the 20-year option, making the total paid for the 20-year period $146,923, as compared to the total of $90,000 invested.

If a man is anxious to preserve his capital for posterity, a simple and practical method is now available through the purchase of life insurance, with the ownership vested in his wife and children. A wife may do the same thing for her husband or children if desired. Under the 1954 Tax Law, this would eliminate the proceeds from our estate and eliminate all

taxes and settlement costs. This is more effective than giving away any other property, because life insurance automatically increases the amount of the gift at death.

WHAT RATE OF INTEREST DOES IT PAY?

What rate of interest do you earn on your money when it is invested in life insurance? You realize that you get an extremely high return if you die prematurely, but you may not be convinced that you earn a satisfactory rate of interest if you live.

The investment brains of our large life insurance companies are the best that money can buy. They are also directors of large banks and other corporations, so they have first-hand information of great value. With hundreds of millions to invest each year, they have first choice of the best investments. Compound interest is entirely practical, and it is a reality, not a theory. Naturally the net yield on the assets of a well-managed company is better than an individual can obtain on similar quality. In addition, the policyholder gets the benefit of the interest earned on the company's surplus.

The better-managed life insurance companies have a yield after taxes, investment losses, and expenses of more than 3½ per cent. This is better than the yield on high quality bonds, and since the all-important object of life insurance is safety, certainty, and security, the yield is a satisfactory one.

Who can determine what rate of interest your life insurance has earned, if it is the only thing you own when you are old or when you die? Is it 100 per cent, 1000 per cent, or just what?

SINGLE PREMIUM VS. INSTALLMENTS

Most buyers of life insurance are confused in their thinking regarding the interest earned on life insurance as an investment because they compare the so-called purchase price of other forms of property, bought with a single payment, with a life insurance policy bought on installment payments running over a period of 20 years or, in many cases, much longer.

If you buy a $30,000 house and write your check for it, it will cost you $30,000. If you pay for it over a 20-year period, it will cost you nearly $48,000 not counting taxes and insurance. In spite of the fact that you pay $48,000 you still think you bought a $30,000 house, and if you sell it for $36,000 you are proud of a $6,000 profit. This is the usual reasoning on all types of property except life insurance.

When you buy a $30,000 life insurance policy, you also have the choice of paying a single premium, which at age 35 would be $16,195. The dividends for the first 20 years total about $2,850, making the 20-year cost $13,349.

However, if payments are made over a 20-year period, you pay about $23,340, and with dividends considered the net outlay is about $18,210. The difference of $5,130 is the cost of buying on installments, whereas the actual cost of the life insurance policy is still only $13,349. When you buy a $30,000 piece of life insurance property, you own an estate. When you buy any other form of property on installments you owe a debt.

A $500,000 SINGLE PREMIUM POLICY

Here is an interesting true story told to the writer by a Wyomissing, Pennsylvania, businessman who, in 1928, thought he sensed some business troubles ahead. Since he was approaching retirement age, he decided to sell his business and stocks and his other investments and look around to decide what to do with the money.

Some of his local bankers recommended that he go to the city and talk to some of the investment experts. He did so and spent a good many hours with them. They wrote out their recommendations and advised him to invest $313,030 in stocks of 12 of America's best-known corporations. He considered it carefully but decided instead to invest $304,305 in a $500,000 single premium life insurance policy.

In 1932 the market value of the securities recommended had shrunk to $53,310, or 16.9 per cent of the recommended purchase price, and the life insurance had a cash value of $311,000.

In 1938 the securities were worth $120,908, or 39 per cent of the purchase price, and the cash value of the life insurance was then $382,000, or 125 per cent of what he had paid for it.

We do not know the market value of these securities at the present time. It is a safe bet, however, if they have returned to the original market value of $313,030, it has occurred only in recent months. There is no certainty these particular stocks have done so, as there are many stocks highly thought of as good investments in the "roaring '20's" which today are still selling for less than they did at that time.

In the meantime, he has had $500,000 of guaranteed estate for his family if anything happened to him.

THE FINAL TEST

The final test, and the most important test, of any investment program is, "Does it work?" The fact that it does work is the most outstanding advantage in life insurance as an investment.

Not only does it work now, but it has worked for more than 200 years, starting with Mutual Legal Reserve Life Insurance in London. In fact, writing of life insurance more than 100 years ago, a London author declared,

"Life Insurance is notoriously the best invest-

ment that can be made. No other can combine so well the two great requisites—security and profit. In all the vicissitudes of politics and trade, in time of wild speculation and of disastrous panic, in the plethora of peace and exhaustion of war, life insurance investments have been uniformly safe and profitable. Of what other kind of investment can the same thing be said?"

The average man will earn a fortune in the 40 working years between ages 25 and 65.

Annual Earnings	*Total Earnings*
$ 6,000	$ 240,000
10,000	400,000
25,000	1,000,000

In spite of the fact that most men do earn a fortune in a lifetime, records show that of each 100 men age 65—

Financial Situation	*Number*
Financially successful	9
Public or private pensions	18
Still working	34
Charity	39

Only one man in 11 is financially successful. You wouldn't play poker if the odds were 91 to 9 against you.

The 1950 census showed 12,000,000 people over age 65.

5,700,000 were men
Only one-half had incomes of more than $1,128 a year
One-third were physically unable to work.

A survey of the estates of doctors shows that one-third have estates of less than $10,000 at the time of death.

With 40 years to earn and accumulate money, it is a pretty sad fact that only one man in 11 succeeds. Ten men out of each 11 "miss the boat."

Over a period of many years, the American people have invested less than 5 per cent of their income in life insurance, but repeated surveys, after excluding the estates of the few wealthiest people, show that 85 per cent of the property left "at the end of the road" is the proceeds of life insurance.

One dollar of every $20 that the American people earn is invested in life insurance, but nearly $19 out of every $20 they have at the "end of the journey of life" is the proceeds of life insurance policies.

There are major exceptions, and it is interesting to note that these exceptions so often come to pass primarily because a man *happens to die* at the right time.

Too many men die when their luck is running against them. The estate of anyone who dies during a "bear market" will almost always suffer additional losses through forced sale of property to raise money for taxes and settlement costs. Wealth, as well as time, has wings and flies.

One of America's wealthiest men, Andrew Mellon, once said, "It is more difficult to keep money than to make money."

If you want to die wealthy, one of the best things you can do is to die at the right time. The writer grew up in a city in Kansas, where there were two banks that ranked in the top 5 in size in the state. The president of one of these banks died a millionaire during the 1920's when everything was booming. The president of the other bank lived too long. He was also a millionaire during the roaring '20's, but his bank failed in the '30's and he lost everything except the cash values of his life insurance policies. In an effort to save the bank, he speculated in the stock market, with the result that he had further losses which caused his bank to become even more insolvent.

The other bank also failed, but the president had been smart. He died while he was still rich.

STORY OF A ROTARY CLUB

One of the most interesting stories we have read is the story of a Rotary Club organized in 1916 with 24 charter members. They were carefully selected, successful men in a wealthy city of about 75,000 population. Twenty-five years later a man who was interested in research checked up to see what had happened to these 24 men. This is what he found:

16 were still living
1 was rich
2 still successful business men
2 old and retired comfortably
1 retired on $100 a month pension
5 still working but worth little
2 still working and worth nothing
3 partially dependent.

Of the 8 men who had died,

1 left an estate of $133,000
1 left his business, but family lost it. His widow was living comfortably on income from $80,000 life insurance
1 left $7,500 estate
5 left nothing.

That so many were financial failures seems almost incredible, for at one time,

18 were worth more than $100,000
12 of these were worth more than $250,000.

TERM INSURANCE

Some investment salesmen advocate the purchase of low rate term life insurance and suggest the saving in premiums be invested in other ways. Term insurance for temporary needs, or as a preliminary to

conversion to permanent plans, serves an important and useful purpose. However, there are many fallacies in the term insurance argument.

We feel our entire article is to a large extent a refutation of the theory of "Term Insurance plus Investment." "Term Insurance plus Investment" ignores the facts of life, the facts we have brought out, that only a small percentage of people will acquire an estate for themselves and their families through ordinary investments.

Term insurance is not property. It is purely temporary protection, even though it may be carried to age 65 or 70. Term insurance is not cheap. The cost over a period of years up to age 65 or 70 is great, as compared to the cost of permanent plans.

Many important guarantees mentioned at the beginning of this article are missing from term insurance. The guaranteed settlement options, both for the policyholder and his beneficiaries, are some of the most valuable guarantees in a life insurance policy, and they are not available on a term policy that has expired.

People are living longer, and a high percentage are living beyond the time when term life insurance protection is available. More than two-thirds of life insurance policyholders are living beyond age 65, and more than one-half beyond age 70. Many of the problems that life insurance solves still exist when people die at 75, 85, or 100 years of age.

PERMANENT INSURANCE

There are good reasons why a substantial part of every estate should consist of life insurance, whether the estate be large or small and regardless of age at time of death.

For instance, estate and inheritance taxes, final expenses, and settlement costs have to be paid in cash. They may easily amount to 25 per cent of an estate. Life insurance is cash at death, immediately available to pay taxes and settlement costs and buy necessities for the family while other property goes through probate court. Without it, you must sell something in order to raise this cash, and that frequently means the sacrifice of valuable property at a forced sale with additional loss to the estate.

If the treasurer of the United States would agree to discount your estate taxes and all other settlement costs and debts, and give you your choice of (1) making an immediate settlement of 60 cents on the dollar or (2) paying 4 per cent a year of the amount for 20 years, after which they would be paid in full, you would probably say that either was a pretty good offer. If, in addition, he said he would cancel all payments in event of death during the 20-year period, you would think the offer very good indeed. Such discounts may be guaranteed through the purchase of a piece of permanent life insurance property, and in no other way.

COMPARISONS WITH OTHER PROPERTY

A discussion of life insurance would not be complete without at least some comments on the most common types of other investments. We are not against the purchase of real estate, mutual funds, or stocks as an investment. We are in favor of them. Millions of people should own them directly, and over 90 million Americans do own them indirectly through their life insurance policies. All who can should own their homes.

We believe traders in the market are an important group who help to supply needed capital to industries and provide a stable market for those who are at the moment more in need of cash than they are in need of an investment.

The largest brokerage house in the world, Merrill, Lynch, Pearce, Fenner and Beane, in a brochure entitled, "How to Invest," said, "In raising a family and building up an estate, there are a lot of things that come before investing in securities. For example, we believe that family insurance comes first; not just an insurance policy, but an insurance plan that will afford your dependents reasonable security. If you show a net surplus but have never really worked out what you consider an adequate insurance plan, you should do it before you broaden the development of your estate by investing in securities."

After buying an adequate amount of life insurance, millions of Americans should have billions of dollars left over every year to buy stocks, real estate, or any other type of property they choose.

When you have plenty of high cash value life insurance and annuities, and then feel the urge to try to make highly profitable investments, we say by all means, do so.

Everyone wants property, but few people are able to acquire much of the usual type. This is obviously true since 89 per cent of our national income is from earnings and only 11 per cent from investments.

REAL ESTATE AS INVESTMENT

The years 1914 to 1929 were good years to own real estate; the years 1930 to 1940 were bad. The years 1941 to the present have been exceptionally good. What of the future?

Dr. Huebner says, "Real estate, except home ownership, cannot be classed as an investment. It is speculative. Like stocks, it may earn much money or lose a great deal, and there is no assurance that it will return the price paid for it, or a profit thereon. Real estate is a type of speculative property that offers at least as many chances of loss as profit."

Real estate is not the ideal investment for most

people. There are many hidden hazards in such ownership.

Changes in values in both city and rural property are continually occurring. Centers of population in our cities shift. Sections once in great demand for business purposes deteriorate and are given over to warehouses and tenements. Fashionable and dignified residential streets are frequently left deserted or deteriorate into slums.

Earthquakes, drouths, floods—there is never any way to determine the future trend of real estate values. Business conditions, the decisions of other people who own property, new inventions, the building of new through highways and toll roads, or important new bridges, have frequently almost overnight destroyed property values in one neighborhood to the advantage of property values in other neighborhoods.

MUTUAL FUNDS AS INVESTMENT

Mutual funds are not a guarantee of financial security. Some have done well; some have done badly. We find the market value of some going up while others go down, and many are average in results. Always some stocks and some mutual funds do better than others, but it is not always the same stocks and the same mutual funds at all times. What stock shall we buy? What mutual fund should we trust with our money, and when shall we buy?

If we buy a mutual fund and later find there are other funds that are doing much better, shall we sell and reinvest? If so, which one shall we choose next time? What about the expense of changing from one to another?

There are hundreds of choices and hence hundreds of decisions to make if we are to do anything more than gamble. Some investment authorities claim that it requires more skill to select the right mutual fund than the right common stock, that your chances for successful investment are better if you choose your own stocks and bonds with the advice of a good investment advisory service. Others argue that mutual funds are the answer to an investor's prayer.

The assets of the mutual funds are now approximately $7½ billion, but their market values are not guaranteed so they are not liquid assets. It is worth noting that the assets of the so-called "investment companies," or mutual funds, were approximately $7 billion in the year 1929. There were more than 1,000 investment companies at that time. About one-half of these companies failed or went out of business during the depression years, and the assets of the surviving companies dwindled to $2 billion in 1932 and on down to $1 billion in 1941. New growth started in about 1942. Approximately $3 billion of new capital has been invested since then, and there has been a large increase in the market price of common stocks listed on the various stock exchanges.

MAKING A CHOICE

Roger Babson has said that 90 per cent of successful businessmen lose money on their outside investments. He says it can't be poor judgment because they are successful in their own business, that the reason is simple—a successful man is busy with his own business, and he doesn't have time to do a good job in investing.

An internationally-known banker once said, "After a lifetime of earning, the man who still has his savings intact, without any interest, is indeed a rare and fortunate person."

To be safe must we, then, turn all of our surplus funds over to life insurance companies? Certainly not. No one should want to put a damper on the adventurous spirit which has helped to make America great. It is a fine thing for our country and for millions of investors to see what they can do in other types of property.

Real estate, common stocks, mutual funds may be suitable investments for the right people, for the right purpose, and at the proper time in a lifetime career. If you can afford to lose money and want to "take a flyer," you may find it a lot of fun. You may make a handsome profit and help build up your country. For those who have adequate funds, a combination of investments in life insurance, real estate, mutual funds, and common stocks may be just the thing.

STORY OF A DOCTOR

Following is an actual case to illustrate the point. A prominent and successful businessman, whose father was a doctor, has told the following story. It illustrates the importance to those who are in position to make investments in real estate, of hedging against future developments through the purchase of a substantial amount of life insurance, both to protect any mortgages he may place against the property and to guarantee himself and the dependent members of his family an adequate living income in times of depression.

"My father was a doctor. He died in 1918, at age 49, when I was 15. Doctors are not supposed to be very good businessmen, but he was. He believed in two things as basic investment: real estate and life insurance. He would buy a piece of commercial real estate, insure his life for the amount of the mortgage, improve the property, and let the income pay off the mortgage. If he died in the meantime, the property would be paid for. He made the largest of such ventures just before he died.

"He was financially successful beyond his own

lifetime because there was sufficient guaranteed income for mother from life insurance so that she could live, as well as equity income from real estate and some stocks that he owned.

"From 1918 to 1929 or 1930, mother's income from life insurance was about 20 per cent of her total income. It was nice to have, but not vital. Prices were high, and it wouldn't buy much. From 1930 to 1940, that same number of dollars was 80 per cent of her total income. And we didn't have to sell a dime's worth of equity to raise money for her to live on.

"The consequence was that since 1940, when values came back, about 65 per cent of her income is from her equities and 35 per cent is still there in the same number of dollars from life insurance. Mother is 79 now, hale and hearty, and I think in no small part because she has never had one single day of financial worry."

Every man's personal earning power is the basic inflation hedge within his estate. When that is gone, dependents must live on income from money, and the day when they can speculate is gone. As a consequence, without life insurance, inflation hedge assets have to be sold; they're gone too.

SUMMARY

You don't have to be a wizard to know what an old man of 70 or 75 or older needs in the way of property. You don't have to be a wizard to know what a widow with small children needs most of all. You don't have to be a wizard to know what a man who is disabled or is out of a job wants. It isn't property. The answer is "income." The heaviest burden an old man can bear is the burden of an empty purse—too old to work and too poor to live without working. Old age can last a long time, but it can't last longer than the income from a life insurance policy paid under the annuity settlement options guaranteed in the contract.

Life insurance is the only property which, in one contract, guarantees a constant increase in cash value, available at any time on demand for emergencies; guarantees the completion of the original investment program, and pays a good income if you become totally and permanently disabled; hedges against inflation through capitalization of your earnings, and thereby guarantees immediately a living income to your family in case of your death; and guarantees that if you live, all you have invested will be returned for your own old age, with the privilege of electing a guaranteed life income instead of a lump sum settlement.

Life insurance accomplishes everything that you want to accomplish for yourself and your family. Why be satisfied with less for your family? Why be satisfied with less for yourself?

New England Building
Topeka, Kansas

Program Chairmen Announced

Physicians who wish to suggest the names of speakers for future annual meetings of the Kansas Medical Society may do so by writing to the chairman of the Program Committee for each session. Chairmen now appointed are:

FOR 1956 MEETING IN TOPEKA

Newman V. Treger, M.D.
1704 West 10th Street
Topeka, Kansas

FOR 1957 MEETING IN WICHITA

Ernest W. Crow, M.D.
c/o Sedgwick County Medical Society
1102 South Hillside
Wichita, Kansas

Solid reasons for prescribing

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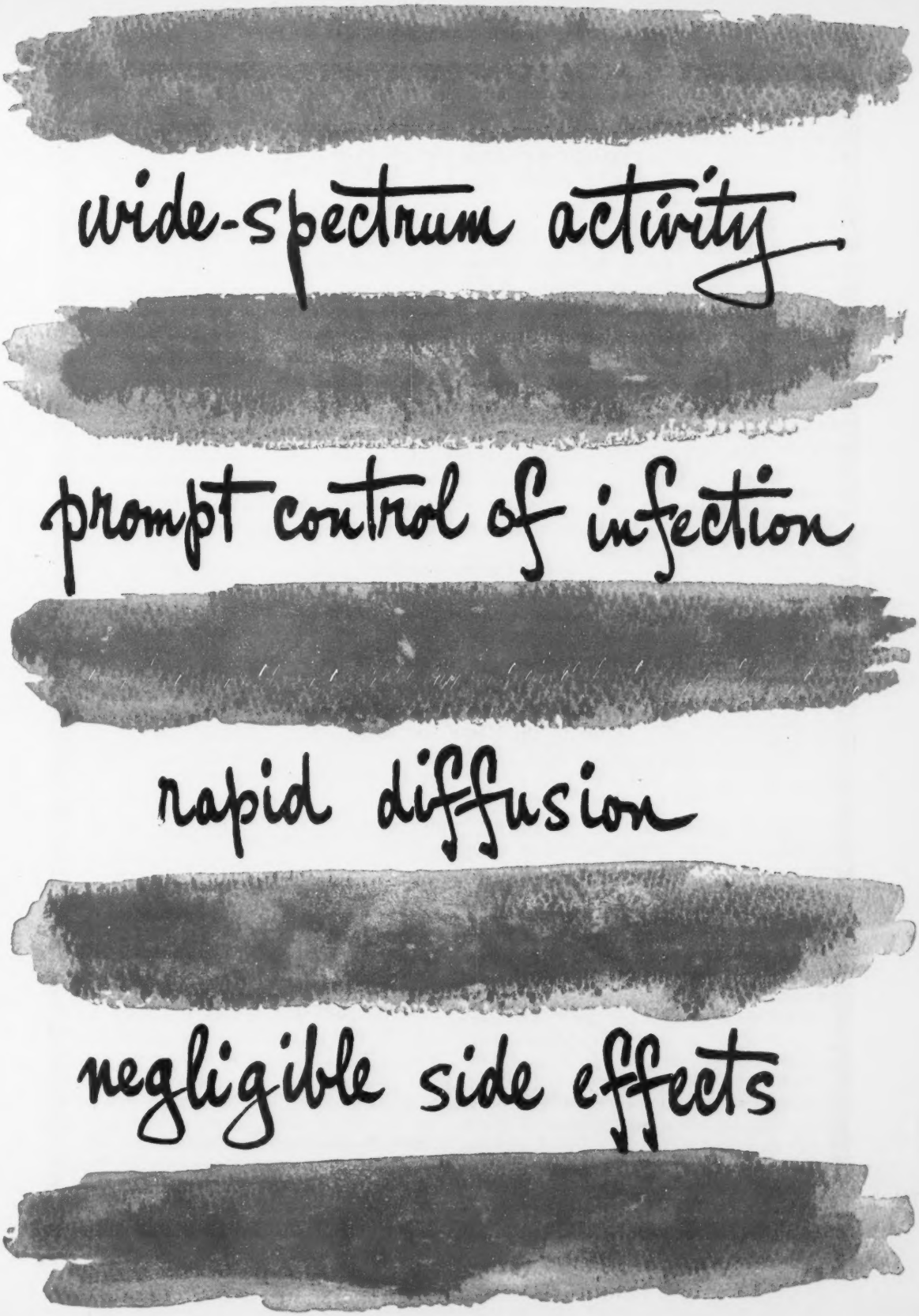

wide-spectrum activity
prompt control of infection
rapid diffusion
negligible side effects

PRESIDENT'S PAGE

DEAR DOCTOR:

My perpetual Christmas wreath calendar in the front window of my office tells me that it is just 34 days until Christmas! My desk calendar reminds me there are just three days left until Thanksgiving.

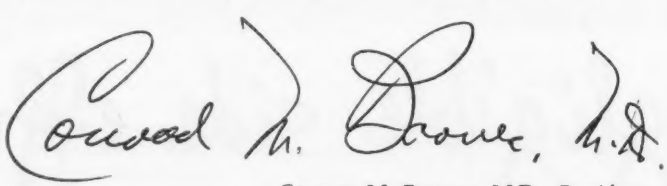
In addition to all the other things we Americans have to be thankful for—we are most thankful for Christmas! Many miracles have happened in all our lives at Christmas-tide. I hope someday to have time to collect the stories of Christmas miracles from many of you interpreters, teachers, and students of human nature. What a fine Christmas book such a collection would constitute. Shall we call the book, "The Doctors' Christmas Stories"? If you have experienced a Christmas miracle in your practice, I'd appreciate your writing me about it.

It gives me the greatest happiness to extend to you official greetings and Christmas good wishes from all the officers, councilors, and executive staff of the Kansas Medical Society. May I, also, invite you to my annual Christmas eggnog party? To wit:

ON CHRISTMAS DAY
YOU
ARE INVITED TO THE OLD FASHIONED MEN'S EGGNOG PARTY
OF
CONRAD M. BARNES. M.D.
AT HOME "BARNESHOUSE"
713 CASTLE ST., SENECA, KANSAS
COME TO THE NORTH LOUNGE ENTRANCE
FROM 12:15 P.M. UNTIL 2 P.M. GET OUT FOR A LITTLE FRESH AIR AND VISIT WITH YOUR FELLOW MEN OF "GOOD WILL"—BASK IN THE CHRISTMAS CHEER.
MERRY CHRISTMAS!
C.M.B.
IN THE YEAR OF OUR LORD 1955

If your A.M.E.F. budget has not already been filled, why not give a Christmas gift to this worthy purpose in honor of the Christmas spirit?

Christmasarily Yours,



CONRAD M. BARNES, M.D., *President*

EDITORIAL COMMENT

Special Issue on Economics

During recent years the JOURNAL has published several special issues devoted to specific subjects. Last year an issue covered the subject of alcoholism; in 1953 one contained a number of original papers on different phases of civil defense; before that an issue pertaining to nursing and nursing education was published. We are now presenting five papers on the subject of economics.

Other publications cover the field of medical economics and present material that is specific for physicians. In organizing this issue, therefore, members of the Editorial Board agreed that emphasis should be placed on three general subjects, investments, taxation, and estate planning.

It was obvious that one writer's views on investments would be limited to his particular field of endeavor in the business world, so that topic was subdivided into three headings, mutual funds, life insurance, and United States Savings Bonds. The Board then solicited articles on the five subjects from five persons who are in position to write authoritatively on the topics assigned. Their contributions are printed on the preceding pages.

All of us concerned with publication of the JOURNAL wish to express our thanks to these contributors. We feel that they have rendered a valuable service to members of the Kansas Medical Society in making this material available. Their co-operation is sincerely appreciated.

Orville R. Clark, M.D.
Chairman, Editorial Board

Our Journal

Down through the years the Editorial Board has had one broad objective, the publication of a JOURNAL that will reflect credit on the Kansas Medical Society. Whether or not that objective has ever been attained, or ever will be attained, is open to question, but a determined effort has been made to keep pace with the times.

The State Journal Advertising Bureau, operated under the auspices of the American Medical Association, has been helpful to the JOURNAL in that effort. The bureau's primary purpose is to serve as advertising representative for state and regional medical publications. This includes setting standards for acceptance of advertising, soliciting contracts, arranging for insertions and plates, billing, and countless other services which would be financially outside our range if we were working independently.

In addition the bureau makes it possible for personnel here to meet with representatives of other state journals at regular intervals. Such a meeting was held last month at the A.M.A. offices in Chicago, and three Kansans were in attendance. All felt stimulated by the opportunity for exchange of views and for learning from experts the new techniques in presentation of medical copy.

An innovation this year was a schedule of four workshops on the subjects of format and makeup, editing, publishing costs, and advertising. The workshop on publishing costs, incidentally, was conducted by Mr. Ovid H. Bell, Fulton, Missouri, who prints our JOURNAL as well as those of Missouri and Iowa.

As a result of suggestions made at the workshops, the Editorial Board is now considering ideas to be incorporated in Volume 57, which begins in January. It is probable that readers of the JOURNAL do not note each change in format, and that is not important. What is important is that our JOURNAL continue to progress.

Perhaps the most helpful portion of the meeting, from the point of view of appearance of the JOURNAL, was the workshop on format and makeup. This was conducted by Mr. O. M. Forkert, who heads a firm of graphic arts consultants in Chicago and is internationally known as an advisor on design and typography at the University of Chicago. He began his discussion by reporting that he had examined one issue of each publication, had evaluated each one, and had noted individual suggestions for improvement.

Mr. Forkert said that medical journals, as a group, are excellent; he rated them two points above the national average of educational and professional publications. Eleven in the group represented by the S.J.A.B. received ratings higher than 87 in his system of grading, and it was encouraging to the Editorial Board to learn that our JOURNAL is one of those. He approved too the individuality of the different publications in spite of the fact that most carry similar advertising text, have similar problems, and have a common aim.

So the work continues. Mr. Forkert's suggestions are being carefully studied and will be adopted as conditions permit. Other sources of information will also be explored as 1956 comes and passes so that members of the Kansas Medical Society can feel that their JOURNAL increases in value, improves in appearance, and is truly representative of the journalistic and professional ability of the physicians of the state.

American Medical Education Foundation

The average cost of training a doctor has increased more than 100 per cent in the past 20 years. Today it costs more than $13,000 to complete that training or more than $3,000 for each of the four years. The medical student pays about one-fifth of this cost in tuition, the difference being recovered by gifts, endowments, and public appropriations. Medical colleges absorb about 30 per cent of the total budget of the universities of which they are a part, yet they enroll only a small percentage of the total university population.

The cost to the medical student is not low. It is estimated that the four-year cost is about $9,200, a heavy burden on the student's parents or wife. Much of this cost is for living expenses over and beyond tuition. Any substantial increase in tuition would eliminate many students and cut back the quality of the student body. While it is a common belief that medical schools receive more applications than can be accepted, in the final analysis the 7,500 entering students each year are generally selected from 13,000 to 14,000 applicants.

This introduction points out the need of our medical schools. Someone has to find the answer. Some medical educators and university presidents believe the only answer is federal subsidization. The majority feel that a federal subsidy would be a perilous alternative to private support. With federal support comes federal control or certainly qualifying standardization or regulation.

In 1949 organized medicine helped a group of the nation's leading business men organize a campaign to obtain from voluntary sources the financial help needed for medical education. A year later the American Medical Education Foundation was formed to solicit contributions from physicians. While these two groups have raised $7,000,000 in their first few years, it is no more than a beginning toward the $10,000,000 a year contribution needed to solve the financial problem of our schools. Even this amount would be short of a much larger sum needed for expansion and equipment to keep pace with scientific advancements.

The Committee on Endowment of the Kansas Medical Society is making a concerted effort to solicit all Kansas doctors this year, hoping that each will contribute not less than $15. Each councilor of the Society, in cooperation with the committee, has appointed a physician in each county to solicit funds.

The committee anticipates many questions and here attempts to explain the problem and answer these questions, as outlined in the nine sections below:

1. This is the physicians' chance to help medical education and prove federal subsidization is not necessary.

2. Every physician paid only a small portion of the total expense of his medical education. Contributions will pay back a part of this deficit.

3. At first the American Medical Association contributed $500,000 to this program each year. This year they contributed only $100,000. This makes individual contributions even more essential.

4. All contributions go to medical education. The A.M.A. contributes the necessary cost of administering the program.

5. Each donor can contribute to the school of his choice by enclosing a letter with his check or by indicating the school in the lower left hand corner of the check.

6. Contributions are tax deductible.

7. Contributions mailed directly to the chosen medical school are not credited to the A.M.E.F.

8. Checks should be made payable to American Medical Education Foundation. Contributions may be sent to the Kansas Medical Society or direct to the American Medical Education Foundation, 535 North Dearborn Street, Chicago 10, Illinois.

9. If each physician contributes a small amount, Kansas will reach its goal for this year.

National Organization for Medical Assistants

The foundation of a new organization, the American Association of Medical Assistants, was laid on November 5 and 6 when 75 medical assistants from 15 states gathered in Kansas City to exchange ideas on the feasibility of founding a national group. All present were in favor of organizing, and a plan was outlined.

Mrs. Carmen Kline, Kansas City, was elected temporary chairman and conducted the two-day session. To facilitate the assembling of suggestions for a constitution, she assigned each person present to a committee, with membership based upon geographic distribution, and asked each committee to consider a different subject such as objectives, qualifications for membership, eligibility for holding office, duties of officers, operating procedure, and so on. Committee reports were later discussed by the entire body, amended if desired, and approved.

To insure continuation of interest in organization plans, the group elected a chairman to serve during the coming year, and Miss Maxine Williams, Kansas City, was named to that office. Her contact with county and state groups will be maintained through a "working committee" made up of one member

from each state, elected by representatives from that state. After these state elections to the committee, the group itself chose Miss Nita Fabac, Missouri, as its secretary and Mrs. Kline to direct finances.

A copy of the proceedings of the Kansas City meeting will be sent to each state representative soon so that the plan may be presented for the approval of each medical assistants' group and its sponsoring medical society. In the fall of 1956, probably in October, another national meeting will be held in Milwaukee for the purpose of effecting organization.

This interest in a national group has focused attention upon the Kansas Medical Assistants' Society and its history and has prompted such questions as "Which group was formed first?" "How did it get started?"

Right or wrong, members of the organization here have often expressed the belief that Kansas had the first such group. The secretary's book, containing minutes of all sessions, records that the first meeting was held at Wichita on May 13, 1940. It was attended by 297 charter members and 23 guests from 71 cities in 50 counties of the state.

That book, however, contains no report of the organization dates of the various county societies in Kansas. The *Bulletin of the Shawnee County Medical Society* records a meeting of the Topeka Physicians Assistants Society on April 10, 1940, in connection with reporting a vote of physicians to sponsor such an organization. The group later changed its name to Shawnee County Medical Assistants' Society. On May 28, 1940, organization was effected for a Wichita Secretaries Club, later known as the Sedgwick County Medical Assistants' Society, which served as hostess group for the first state meeting.

At the state meeting in 1941, charters signifying that the groups were component organizations of the Kansas Medical Assistants' Society were presented to representatives of Sedgwick, Wyandotte, Shawnee, Lyon, and Riley counties. A request for a charter from the society in Cowley County was recorded.

It is obvious from a study of the various records that Kansas can be counted as a pioneer in the field. It is apparent also that a need for such an organization was felt in other localities at about the same time. The Shawnee County Medical Society announced with pride that a Topeka assistant had accepted an invitation to address the first meeting of medical assistants in Michigan in September of 1940.

The Kansas Medical Society had an active part in the formation of the state organization for medical assistants and has continued to lend advice, support, and encouragement. County medical societies have participated in the same manner at the local level. A number of officers of the Kansas Medical Society and members of its Committee on Medical Assistants were present at the Kansas City meeting and pledged the Society's support of a national group.

Physicians who are not now familiar with the purposes and accomplishments of the assistants' organization will learn, by a study of its programs and activities, that its members are sincerely devoted to the object which is stated in their constitution as ". . . to seek advantageous ways of assisting their professional employers to maintain and elevate the high standards which the medical profession and their aides have deserved and attained by years of unselfish loyalty to their profession and to the people."

Military Deferment for Residents

The Department of Defense has adopted a plan under which 1955 graduates of medical schools who are now serving internships may, on an individual basis, apply for deferment to serve two-year and three-year residencies in accredited hospitals.

Normally, it takes from three to four months to process applications for commissions. Only after applications have been processed and appointments for deferment are tendered and accepted will the names of physicians selected for deferment be forwarded to the Director of Selective Service. Therefore, it is essential that application forms be completed as quickly as possible.

The program will permit young regular-draft-eligible physicians to express a choice of service in which to be commissioned and to indicate a preference for the approximate time they would prefer to enter on active duty. Participants in this program who do not desire to be considered for residency deferment and those who apply for such deferment and are not selected will, in general, be required to enter on active duty sometime during the period July 1, 1956 through June 30, 1957. The desire that participants have expressed regarding the time at which they wish to enter on active duty during this period will be followed insofar as the requirements of the services will permit.

Further information may be secured from the Kansas State Advisory Committee to the Selective Service System, 315 West Fourth Street, Topeka.

The American Hospital Association announces a steady rise in hospital admissions since 1946, the year in which it began such statistical studies. Information is gathered from questionnaires answered by 6,970 hospitals in the country.

There is something inspiring in reading classic works of the master physicians of yesteryear. The careful clinical observations, the thorough investigations, and the logical conclusions show us how much can be done with the means available (and, by our present-day standards, often limited means indeed) when the observer is a true scholar.

William H. Welch, professor of pathology at Johns Hopkins University during the golden era of the "four greats" (Halsted, Kelly, Osler, and Welch), is such a man. In 1892 he published a report of "A Gas-producing Bacillus Capable of Rapid Development in the Blood Vessels after Death." The report was made within a year after the death of the patient, during which time not only the complete autopsy studies but extensive bacteriological studies had been completed, determining both morphological and biological characteristics. Finally, believing a new organism had been identified, he offered a name for it—Bacillus aerogenes capsulatus.

In his conclusions he states, "The bacillus is not pathogenic under ordinary conditions for healthy rabbits . . . however, under especial conditions [small doses may] prove fatal, the special condition in our experiment being pregnancy probably associated with the death of two embryos either before or soon after the injection.

"The bacillus develops rapidly in the blood after death, with formation of gas. . . .

"All of the conditions relating to the bacilli and their production of gas which existed at the post-mortem examination of the patient J.M. were produced experimentally in animals by inoculation of pure cultures of the bacillus isolated from the body of the patient.

"It is our intention to continue the experiments in order to determine more accurately how long the bacilli may survive in the body of a living animal, how they are disposed of there, and the possibilities of their exerting pathogenic effects under certain circumstances. . . ."

"A patient with chronic pulmonary tuberculosis, acute miliary tuberculosis, and a large sacculated aneurism of the ascending arch of the aorta, which had ruptured in two places through the anterior thoracic walls, died suddenly after repeated copious hemorrhages from the aneurism, but not immediately after the loss of blood. The autopsy was made in cool weather *eight hours after death* while the body was still warm, there being no odor or evidence of ordinary cadaveric decomposition present. The heart and blood-vessels everywhere were found to contain gas-bubbles in large amount; gas was also present in the subcutaneous connective tissue in some places, in the heart-muscle, liver and other organs. . . . The bacterioscopic examination of the blood revealed the presence of non-motile, capsulated bacilli in very large number wherever the gas was found, and no other species of micro-organism could be detected. This bacillus was isolated in pure culture and found to be an obligatory anaerobe. Its morphological and biological properties were studied and have been described. . . . No accurate determination of the gases produced by the growth of the bacillus was made save to establish by ignition the presence of hydrogen both in the original case and in the experimental animals.

"There can be no doubt that the gas found in the vessels and organs at autopsy on the patient was not atmospheric air, but was produced by the growth of the bacilli. . . ."

This study, completed within a period of a year, prepared the way for our present knowledge of gas gangrene. The accuracy of the work has kept the conclusions authoritative to this day.—*O.R.C.*

Clinicopathological Conference

CASE PRESENTATION

This 23-year-old colored female was admitted to the University of Kansas Medical Center for the first time on January 7, 1955, and died January 21, 1955. The chief complaint was fever of four weeks' duration.

The patient was in good health until December 12 when she developed chills and fever up to 104 degrees. This was initially accompanied by low back pain. The fever was relieved by aspirin. Two days later she saw a physician who made a diagnosis of "flu" and treated the patient with a shot of penicillin, followed by oral Achromycin. On December 16 she was seen by another physician who continued the Achromycin. By December 18 the patient felt better, and her temperature stayed at 99 degrees for two days. On December 20 she again spiked fever to 104 degrees. She was hospitalized with a diagnosis of pneumonia.

Her illness remained severe, and three days later she required oxygen. On December 26 she had become delirious and irrational, remaining so for a period of three days. By January 1 she was able to be out of the oxygen. Two days later she vomited one pint of coffee-ground material. Following this she was unable to keep down food or water because of choking and vomiting.

Since the birth of a son 15 months before, the patient's menstrual periods had been irregular. In October, 1954, she began taking hormone shots in an attempt to regulate menstruation. On December 1 she was seen by a physician who diagnosed pregnancy. Two days later, however, she had a normal menstrual period. Menstruation had ceased at the time the present illness began.

The patient's past history consisted of an eye injury at age 10 necessitating eye surgery. She was a gravida I, para I, and had had a normal, full-term, spontaneous delivery without complications 15 months prior to the present illness. At the time of delivery a chest film was reported normal, and tuberculin skin test was negative. The patient, herself, had been a premature baby and had been followed medically rather closely until she was 18 years old.

There was family history of maternal hypertension and paternal diabetes mellitus. Both parents were living.

On system review, the patient complained of headaches for many years. There was decreased vision in the right eye because of previous trauma. She complained of cough early in her illness, but this subsided, only to recur five to six days prior to admission. She had right lower chest pain at the onset of her illness, but this had since disappeared. She complained of low back pain intermittently since having a fall during her pregnancy, but this was not severe nor continuous.

Physical examination revealed a well-developed, fairly well-nourished, Negro female appearing both acutely and chronically ill. Temperature was 103, pulse 130, respirations 24, blood pressure 110/60. The right pupil was fixed, with a lens opacity. There was decreased vision in the right eye. The left eye was normal. Examination of the chest revealed dullness posteriorly in the right base, moist rales in the right base, and a few scattered fine dry rales in the left base. The heart was not enlarged. There was a gallop rhythm. There was a questionable grade I systolic murmur at the apex. The right upper quadrant was tender, but no organs or masses were palpated. There was no significant lymphadenopathy. Neurologic examination was negative. Pelvic examination was negative.

Laboratory: Several urinalyses were done, specific gravity varying between 1.002 and 1.011, a trace to one plus albumin, no sugar. There were varying numbers of red cells, white cells and casts in the urinary sediment.

Numerous blood counts were done. The red count ranged between 3.5 and 4.1 million, hemoglobin between 59 and 73 per cent (9.2 to 11.2 gm.). The white count varied between 10,000 and 15,400. The differential showed between 80 and 94 per cent polys. Circulating eosinophil counts were 28 and 44 per cu. mm. on different days. VDRL was non-reactive. NPN varied from 40 on admission to 22.4. Blood sugar was 104 while the patient was receiving IV fluids. Initial serum electrolytes were sodium 127 mEq./L, potassium 2.7 mEq., CO_2 from 18 to 29 mEq., and chlorides from 83 to 106 mEq./L. Total proteins were 4.85 gm. per 100 ml., albumin 2.66, globulin 2.19. A stool was positive for occult blood.

Agglutination studies were negative. One week after admission serum bilirubin was 3.3 with 2.4 direct, thymol turbidity 7, and cephalin-cholesterol flocculation 3 plus. Numerous blood cultures were done which revealed Staphylococcus aureus, coagulase positive, with moderate sensitivity to erythromycin, bacitracin, and chloramphenicol. Sedimentation rate was 19 mm./30 min. and 29 mm. in one hour.

In the hospital, bronchoscopy was done on admission. There was a minimal amount of mucoid secre-

Edited by Glen R. Shepherd, M.D., and Mahlon Delp, M.D., from recordings of the conference participated in by the departments of medicine, radiology, and pathology of the University of Kansas School of Medicine as well as by the third and fourth year classes of medical students.

tion in the trachea and in the right main bronchus. This was cultured. A scant growth of non-hemolytic staphylococcus was obtained. Throughout hospitalization the patient remained febrile, with temperature ranging between 100 and 105 degrees. She had a persistent tachycardia ranging between 110 and 140. Initially she was placed on aqueous penicillin, parenteral fluids, aspirin, and sponges to control fever.

On the following day erythromycin was started. It was continued parenterally along with the penicillin throughout the patient's hospital course. Thoracentesis was attempted in the right posterior chest, but no fluid was obtained. The patient was given supportive therapy in the form of intravenous fluids and small whole blood transfusions. She was digitalized two days after admission.

On the third hospital day bacitracin was added to the antibiotic regimen. The patient was initially placed in oxygen, later placed in an oxygen-aerosol tent, and bacitracin was nebulized into the tent. She had coffee-ground emesis and tarry stools but, on the whole, she was able to retain food and medications throughout hospitalization. By the third hospital day it was felt that the patient was improving somewhat; however, the remainder of her hospital course was a steadily worsening one.

She manifested fever, tachycardia, intermittent hiccough, pleural friction rub over the left anterior chest, a palpable spleen, thrombophlebitis, and episodes of delirium.

On the day prior to death, the patient became extremely apprehensive, dyspneic, and cyanotic. Respirations increased to 60 per minute. Throughout the night she remained dyspneic and cyanotic and, by the following morning, was extremely cyanotic and dyspneic. Death occurred at 8:45 a.m.

Question: What antibiotics did the patient receive?

Dr. Dowell: On the second day erythromycin was added. One gram every 24 hours, given intravenously, was ordered initially. This dosage was gradually increased throughout hospitalization. On the fifth hospital day bacitracin was started, 20,000 units every six hours. Erythromycin was increased until, about a day or two before death, she was receiving 6 to 8 grams per 24 hours. The bacitracin was increased from 80,000 units per day to 100,000 units per day.

Question: Was she raising sputum in the hospital?

Dr. Dowell: Yes, but with difficulty and in minimal amounts.

Question: Was it thick and purulent?

Dr. Dowell: Not particularly. It was mucoid and watery.

Question: Was a sputum culture done?

Dr. Dowell: Yes, and it was negative at 24 hours.

Question: Do you know when the diagnosis of pregnancy was made and how reliable it might have been?

Dr. Dowell: I think that was by physical examination.

Question: Can you describe the terminal event or the day preceding the terminal event when she became apprehensive and dyspneic?

Dr. Dowell: On the morning before she expired she seemed to be about the same. She had been in a rather small aerosol tent, and at about two o'clock that afternoon she became extremely apprehensive, and cyanosis was detected for the first time. She was breathing extremely rapidly though her blood pressure remained about the same. The tachycardia persisted, fever persisted, and she remained alert. She slept some during that night. The next morning she was still markedly cyanotic and had very rapid respirations. She remained conscious right up to the time that she died. There was no precipitous drop in her blood pressure.

Question: Was hemoptysis noted at any time?

Dr. Dowell: No hemoptysis was noted.

Question: Was the blood culture taken a week before death positive?

Dr. Dowell: Yes, it was positive.

Question: Is there any history of abortion?

Dr. Dowell: Not that I could determine.

Question: Did the questionable murmur change any during following examinations?

Dr. Dowell: No, there was never any marked murmur heard during her hospitalization.

Question: Did she ever go into shock prior to her transfer here?

Dr. Dowell: I don't know that definitely. It was remarked in the transfer letter we received that she had a persistent hypotension.

Question: Hypotension?

Dr. Dowell: Yes. Her blood pressure varied between 90, 100, and 110 systolic during her previous hospitalization.

Dr. Delp (chairman): Let us see the electrocardiograms.

Mr. Robert H. Schnetzler (fourth year medical student)*: The first was taken on the day following admission, January 8. The rate is about 130, with regular sinus rhythm. The P waves are upright in leads I, II and aVf. The QRS vector is about minus 10 degrees, which is left axis deviation within normal limits. The transition zone is between V_2 and V_3. The conduction times are all normal including the QT interval, which is about 0.28. I find that this electrocardiogram is compatible with sinus tachycardia.

This second tracing was taken three days after digitalization, on January 12. The rate is again 130 and regular. The PR interval is lengthened to about 0.20 and the QT interval is shortened to about 0.20. The

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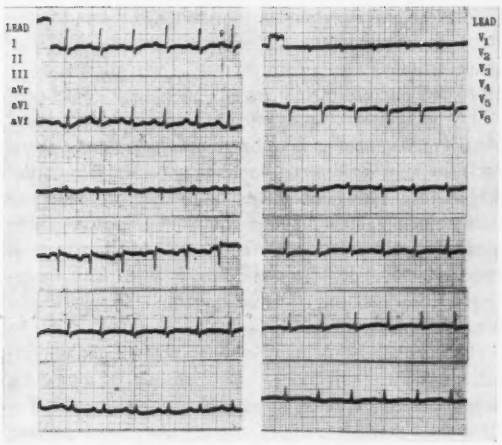

Figure 1. Electrocardiogram taken January 12, interpretation in text.

T waves are isoelectric in all leads except in II, aVf and V_5 where there is a small terminal T wave. The QT segment is depressed in V_5 and in all chest leads. I find this compatible with sinus tachycardia again and digitalization. There may be a hypopotassemia effect.

The third electrocardiogram was taken three days before death. The only change is that once again the QT interval is about 0.28 and lengthened. The rate is again 130 and regular. I think this may be compatible with an increased hypopotassemia on top of digitalization. There is a sinus tachycardia.

Dr. Delp: Any comments, Dr. Lin?

Dr. Lin (cardiologist): No, sir.

Mr. Paul R. Staley (fourth year medical student)*: The first x-ray was taken on December 20 at the time of admission to the other hospital. The bony shadows and soft tissue shadows were normal. The transverse diameter of the heart was within normal limits. There was some slight flattening of the costophrenic angle. There was a patchy type of infiltration in the upper part of both lung fields, more marked on the right.

Another x-ray was taken three days later. A shadow of radiolucency with an opacity around it demonstrated a cavity. There was also a second cavity.

A third chest film was taken on January 3. It showed an increased density in the right base and numerous cavities. There may possibly have been some pleural adhesions. Also there was an increased infiltration on the left.

A KUB was taken January 5 in another hospital. No abnormal shadows were noted.

A KUB taken the day prior to death showed a tremendously dilated loop of intestine.

* Received M.D. degree since this conference, in June, 1955.

A chest x-ray taken the day prior to death showed an increase in consolidation in the right base, consolidation in the left base, and infiltration throughout the entire lung fields. There seemed to be dilatation of the right auricle. Though the outline of the left side of the heart was not visible, it did appear to be dilated on the right.

Dr. Delp: Dr. Tice, do you care to comment on the x-rays?

Dr. Tice: I think the report is accurate. There was a report of a cavity seen on the left side in one of the films. I think the KUB indicated the size of the liver and the spleen to be increased.

DIFFERENTIAL DIAGNOSIS

Mr. James M. Stout (fourth year medical student)*: We are concerned here today with a 23-year-old Negro woman whose illness began abruptly with chills and fever. She had a rapid fulminating course ending in her death 40 days later. The important points in the history I shall summarize as being the following: She received wide spectrum antibiotics initially when she first developed her chills and fever. She became better again six days later only to relapse in eight days. She was hospitalized with a diagnosis of pneumonia and was put on erythromycin. I consider this to be an important factor in her history. She was admitted to the University of Kansas Medi-

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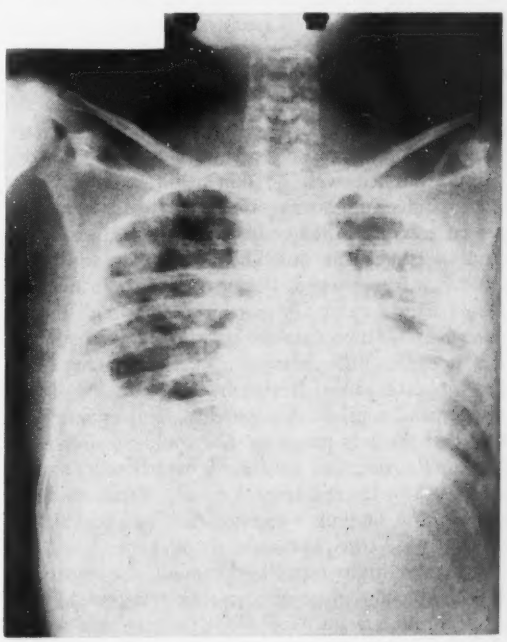


Figure 2. Portable chest x-ray taken January 20, interpretation in text.

cal Center and was obviously very ill. She had a tachycardia and involvement of multiple systems. Staphylococcus aureus was cultured from her blood as well as from the bronchus. She rapidly worsened and died in cyanosis and tachycardia with rapid respirations. I think it also important in the history that she was placed on erythromycin and penicillin here. She improved in three days but again relapsed shortly thereafter.

She could have had a lymphoma with a secondary infection. However, there was no lymphadenopathy. If this were Hodgkin's disease, the fever wasn't typical. It usually is the Pel-Ebstein type of fever. Carcinomatosis would have been accompanied by a history of a primary site or some x-ray evidence, and this patient had neither.

Finally, I would like to talk about my diagnosis in this case, staphylococcal septicemia and bacteremia, bacterial endocarditis, and myocarditis with metastatic abscesses of the liver, spleen, and kidney and possibly of the central nervous system as well. I have a difficult time making up my mind whether or not this patient actually had endocarditis. Four main things are needed to make the diagnosis: (1) an audible murmur or a murmur which changes throughout the course of the illness, (2) fever, (3) anemia, and (4) a positive blood culture. The latter three were present. The presence of an audible murmur in this case was questionable, in my opinion. However, tachycardia could have masked the murmur. I believe she did have endocarditis though there were no petechiae. Petechiae are a frequent accompaniment of endocarditis, but in one series less than 12 of 52 cases had petechiae.

The mode of entrance is a part of the pathogenesis of this disease. Furuncles, boils, and carbuncles can produce staphylococcal septicemia with skin manifestations. There were no skin manifestations which would suggest that this was the way the organism gained entrance to the body. Thrombophlebitis could seed the organisms throughout the body with bacteremia and septicemia. It is usually accompanied by some cutaneous manifestations near the site. This patient did have thrombophlebitis which developed during the course of her illness in the hospital, but I believe it accompanied treatment.

Puerperal sepsis is a possibility. This patient was told that she was pregnant. She could possibly have had an abortion and developed staphylococcal septicemia and bacteremia from that. However, nothing in the physical findings suggested this, and the history was not good enough to make the diagnosis.

Osteomyelitis is capable of seeding the organisms into the blood, but no osteomyelitis was found.

Genitourinary tract infections from trauma within this tract can easily cause septicemia, but we have no history of this either.

I have come to the last two things I want to discuss: the mechanism of gaining entrance into the body from an upper respiratory tract infection or from the gastrointestinal tract. This patient could possibly, because the antibiotics allowed staphylococcus to overgrow, have developed staphylococcal pneumonia with bacteremia and septicemia from the pneumonia. However, in my opinion, and I disagree with my colleagues on this, the chest x-rays resemble more a septic pneumonia. It appears to me that this process was seeded from the bloodstream, and I prefer to think that the organisms gained entrance to the body in another way.

There have been many articles written on the so-called disease of pseudomembranous enterocolitis from the use of wide spectrum antibiotics. This patient was started initially on tetracycline. I believe that this is in her history. This had a part in changing the intestinal flora so that staphylococci overgrew. She improved in six days and relapsed eight days after the illness began. At that time I think she developed staphylococcal bacteremia. She was put on erythromycin again. This may be an important point also.

There have been many articles in the literature on erythromycin resistant staphylococci which developed after a few days of using erythromycin. This patient did possibly develop erythromycin resistant staphylococci. Vomiting blood, tarry stools, and episodes of diarrhea all suggest pseudomembranous enterocolitis. Possibly this patient developed a resistant staphylococcus from one of the hospital personnel. It has been reported that important carriers of resistant staphylococci are hospital personnel. Over 50 per cent, some authors reported, of hospital personnel carried erythromycin resistant staphylococci. They contaminate the patient.

For the mode of death in this patient, we have to consider pulmonary embolism because she had thrombophlebitis. It is a distinct possibility because of the tachycardia, rapid respirations, and cyanosis. However, she didn't have hypotension as we would expect with pulmonary embolus.

It is hard to make a diagnosis of myocarditis from a clinical basis. Patients with myocarditis frequently die suddenly. It could have been the mechanism of her death. The rupture of a mycotic aneurism of the central nervous system could have caused her death. She could have had an acute adrenal insufficiency. In Cecil's textbook it is written that people who have acute adrenal insufficiency usually have eosinophil counts above 50. This patient had an eosinophil count below 50. I believe the diagnosis of acute adrenal insufficiency can be eliminated. She could have had a pulmonary thrombosis. This is a distinct possibility. She could have been exsanguinated from gastrointestinal bleeding. That is a distinct possibility. How-

ever, I believe she died from an overwhelming pneumonic process.

CLINICAL DISCUSSION

Dr. Delp: I think that in this patient we have an etiologic agent to begin with, which is always gratifying, and we can make some conjectures as to what the pathogenesis might have been. What I am really interested in is why this patient didn't respond to treatment. Why did the disease progress so unrelentingly? What is your idea about this?

Student: I think it is probably due to the infecting organism being resistant to all antibiotics. It is the bacterial type that is important, regardless of how the infection occurred. If it is viral pneumonia, that would cause enough inflammation to pave the way for staphylococcal pneumonia.

Dr. Delp: Are there any other factors that might play a part in the progressive character of this patient's disease beside the failure of chemotherapy?

Millard C. Spencer (fourth year student)*: If the initial infection was staphylococcal pneumonia, the "flu" perhaps paved the way in knocking down the body's resistance. I believe she had what is considered a typical virus influenza rather than a virus pneumonia at first. On the factor of chemotherapy, an organism might develop resistance to one antibiotic and become resistant also to another antibiotic that hasn't been given.

Dr. Delp: Shockley, can you offer any other explanation for the terminal cause of death?

Clarence J. Shockley (fourth year student)*: From the x-ray you get the picture of congestion in all the lung fields. I was under the impression that there was dilatation of the right side of the heart. Right sided heart failure, I am sure, played some role in this patient.

Dr. Delp: I think that this patient had myocarditis. How do you think the patient got myocarditis? What would be the background for myocarditis? It is a rare situation, and I thought we had almost stopped making that diagnosis.

Donald E. Wilcox (fourth year student)*: In view of the fact that she had a gallop rhythm, I think that we should at least give it a little thought. Also a patient who did have septicemia could very possibly have developed bacterial endocarditis and subsequent myocarditis.

Dr. Delp: Dr. Weber, may we have your comments concerning the case?

Dr. Weber (internist): This patient entered the hospital with septicemia, the exact etiology of which is really unknown. Apparently she became ill December 12, and about a month later she entered the hospital here. The initial episode doesn't suggest pneumonia. It had a sudden onset. Then the extremely septic course with recurrence suggests that she had the septicemia right from the onset. It may have started out as multiple abscesses due to staphylococcus. The lesion at the time of her admission was probably multiple pulmonary abscesses. The blood cultures were positive for Staphylococcus aureus which was resistant to most of our antibiotics. It is quite possible that she had a staphylococcus enteritis. I don't believe that was the source of her septicemia.

At the time of admission with these resistant organisms, I think that the only thing that could be done was treatment with massive doses of antibiotics. The source of this septicemia in seeding the blood stream is probably not important at this particular time, because there were so many abscess sites throughout the body that the septicemia itself required treatment specifically. Unfortunately, we have few antibiotics which are effective in staphylococcal septicemia. If penicillin is to be used even in the face of in vitro sensitivity, it should be used in massive doses: five million units every six hours or every four hours. Probably penicillin is still our antibiotic of choice. Again and again we have had cases here which have been fatal from staphylococcal septicemia, cases in which we have not started the massive doses initially.

I think the staphylococcus has become so resistant because we are actually selecting the resistant organisms. We treat the sensitive staphylococci, and as we continue to treat the patient with inadequate antibiotic dosages the resistant organisms then grow and flourish. So we actually select, and it is this selectivity which brings about resistant strains in this particular organism. Therefore, we should start with massive doses.

Erythromycin is an excellent antibiotic. It was first used two years ago in this particular disease, and there were many people who were cured of staphylococcal septicemia by using it. The doses then recommended and described in the literature are too small. Now we have to use larger doses, and 8 grams a day is just an initial dose. I would start with 8 or 12 grams a day.

It was obvious that this girl would probably die. There is no evidence of antagonism from combinations of antibiotics, at least in this particular group of antibiotics. I think that all three should be used in such a desperate situation.

How are you going to evaluate the effect of your drug? You can evaluate by blood cultures, and blood cultures twice daily would be indicated in this patient. If blood cultures do not become negative, then you have to give more extensive antibiotic therapy. I think that is the only way that such a patient will

* Received M.D. degree since this conference, in June, 1955.

ever survive. I think the patient finally died of adrenal insufficiency.

We have recently seen a patient with staphylococcal pneumonia with lung abscesses who would have died, I am sure, had he not been placed on cortisone. I don't recommend cortisone in any infectious disease. However, these patients die of toxemia and adrenal insufficiency. This patient had extreme stress throughout her course, probably developed a duodenal ulcer, and finally died of adrenal exhaustion from the staphylococcal septicemia. I think we have to be extremely aggressive in this particular disease as the mortality rate is increasing day by day.

PATHOLOGY REPORT

Dr. Ann Pollak (pathologist): This is a complex case, and I think I will present it in the way it was presented to us.

There was an obvious gastric ulcer with a fresh thrombus in it. I didn't find blood in the rest of the gastrointestinal tract so the ulcer probably had not been bleeding shortly before death.

The adrenal cortex showed tubular degeneration, a vacuolated appearance, that was not an artefact. This lesion has been produced in experimental animals by heavy doses of ACTH, doses far beyond ordinary physiologic or therapeutic uses. This adrenal showed this more than any adrenal I have seen before, so this patient had been suffering from extreme stress. The stress was an overwhelming infection.

The cut sections of lung were hemorrhagic all over, with numerous dark purple areas. There were red infarcts with areas of necrosis representing abscesses in the centers of some infarcts. The infected infarcts were near obstructed vessels containing emboli. There were innumerable such lesions scattered throughout the lung parenchyma.

The pleural surface of the lung showed abscesses that had ruptured through and produced an empyema with a small amount of pus. Then something happened which in my experience is unusual. The empyema extended around the esophagus and produced a mediastinitis as well. The microscope merely confirmed what was obvious in the gross examination.

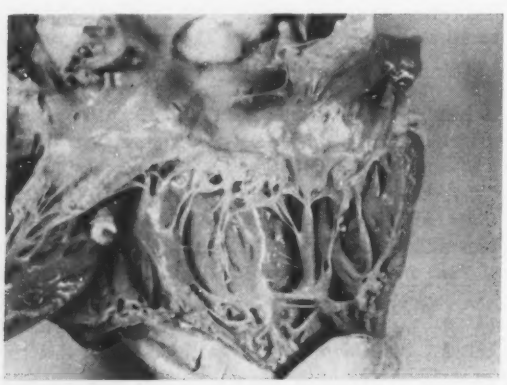


Figure 3. Gross photograph of the tricuspid valve, showing large vegetations on all leaflets of the valve.

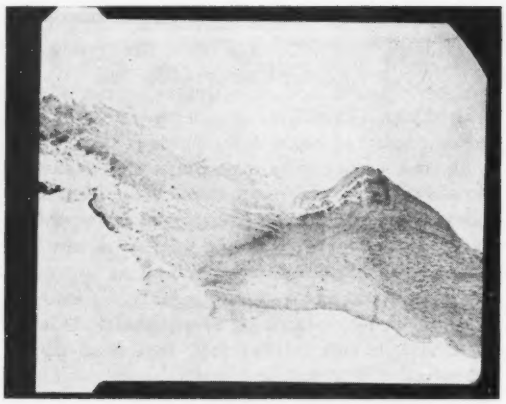


Figure 4. Photomicrograph of tricuspid valve. The valve leaflet is in the lower right part of the picture. Superficial to this is an intense inflammatory infiltration. The left side of the picture shows the vegetations. The black masses are clumps of bacteria. (Low power, hematoxylin and eosin stain)

A section of lung showing a small vessel containing an infected embolus was surrounded by pus with an infarction nearby. There was in miniature the pathogenesis of the lung lesion. There were innumerable such lesions of varying size.

The heart showed numerous large vegetations involving all leaflets of the tricuspid valve. Vegetation was not found on the other valves in this case. Close examination of this heart revealed a minimal degree of inter-adherence of the cusps of the aortic valve. This lesion was of no functional significance but was an unmistakable stigma of previous rheumatic disease, so this woman had an area of diminished resistance involving her valves and she developed a bacterial endocarditis on the tricuspid valve.

Again the microscope confirmed what was apparent grossly. Bacterial stains showed the presence of innumerable staphylococci in the vegetations. Microscopic sections also showed the presence of several classical Aschoff bodies in the atrioventricular groove, the right ventricular muscle, and on the MacCallum patch above the posterior leaflet of the mitral valve. The mitral valve itself was normal.

In addition to this there was extensive diffuse interstitial myocarditis. Present were dark mononuclear cells, so I assume that this was also evidence of acute rheumatic fever, although I can say that this is nonspecific and I am giving a guess. I have no doubt about the Aschoff bodies, however.

So a woman with previous rheumatic disease with an acute rheumatic fever flare-up developed bacterial

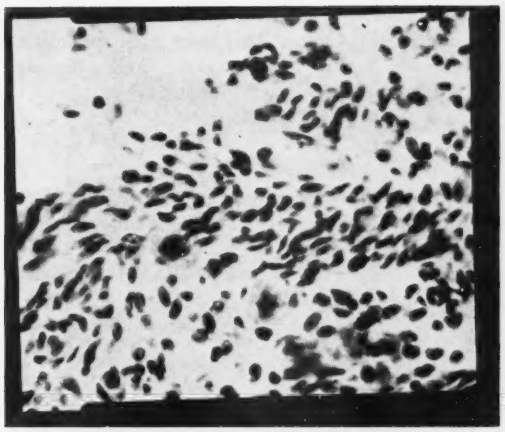


Figure 5. Photomicrograph of endometrium. The two large cells just below and to the left of the center of the field are syncytiotrophoblasts. (High power, hematoxylin and eosin stain)

endocarditis on the tricuspid valve due to staphylococci, with multiple infected emboli and therefore infected infarcts in the lung. She actually had little evidence of infection in the other organs. She had some abscesses in the kidney. The brain showed minute hemorrhages around the smaller vessels without definite evidence of brain abscess, so perhaps there was embolizing to the brain also. This may have accounted for some of her mental confusion.

Where did this infection come from? She was supposed to have started to menstruate two days before she died, and one would have expected to see a hemorrhagic endometrium. It was actually somewhat irregular and granular. There were rather low glands, desquamation of the surface, and a fair amount of hemorrhage. However, a section of one portion of the endometrium showed these were trophoblasts, which occur only in the endometrium in cases of recent pregnancy.

A vein in that region showed a few inflammatory cells in the wall. Therefore, the patient had thrombophlebitis in that portion of endometrium. Culture of the surface of the endometrium in this area revealed only a few colonies of non-hemolytic staphylococci.

The cervix showed large dilated veins surrounded by polymorphonuclear leukocytes extending out into the surrounding tissues. This was evidence of an extensive thrombophlebitis.

Finally we examined the broad ligament, and we found some thrombi in the veins of the broad ligament. One thrombus was partly recent and partly old.

Question: Can the gynecologists explain why the patient had a negative pelvic examination?

Dr. Newman (gynecologist): No, I cannot. That was a question I was going to ask. I presume that the initial infection that had been in this uterus had become quiescent. Otherwise I suppose the bacteriologists would have had larger colonies from the swabs of the tissue sections. I still wonder if there wasn't an exacerbation of her febrile course after the pelvic examination. The examination might have stirred things up. Even so, it is amazing that this woman did not have some discharge considering that she still had trophoblastic tissue in the uterus. I still don't have a satisfactory explanation of why she had a negative pelvis.

Dr. Delp: I think you might get the impression that I was misleading you on the protocol, but I believe the patient was critically ill and extremely difficult to examine, and she had to be examined in bed. I looked on the chart to see if there was any exacerbation of her illness, and I didn't see any.

ANATOMICAL DIAGNOSIS

Primary

Trophoblastic endometrium of fundus.

Vasculitis of endometrium, slight (two colonies of non-hemolytic staphylococci cultured).

Thrombophlebitis of cervix, moderate, with regional hemorrhage.

Old and recent bland thrombi in veins in broad ligament.

Bacterial endocarditis of tricuspid valve, advanced (blood culture positive for non-hemolytic staphylococci).

Multiple septic emboli to smaller pulmonary arteries.

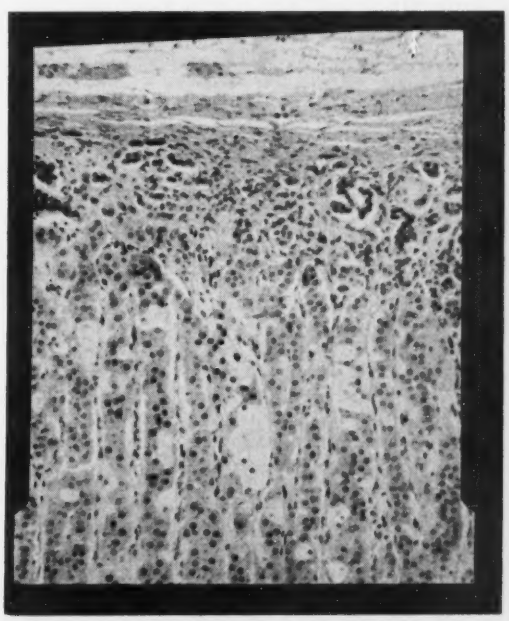


Figure 6. Photomicrograph of adrenal cortex, showing tubular degeneration, a vacuolization. (Hematoxylin and eosin stain)

Multiple infected infarcts in lungs (heavy growth of non-hemolytic staphylococci and enterococci).

Fibrinopurulent pleurisy and mediastinitis, advanced (heavy growth of non-hemolytic staphylococci and light growth of enterococci).

Embolic pyelonephritis, moderate.

Diffuse glomerulitis, moderate.

Petechial hemorrhages in brain, moderate.

Focal enterocolitis, moderate (scant growth of non-hemolytic staphylococci).

Acute and chronic hyperplasia of spleen, advanced, with islands of hematopoietic tissue.

Myeloid hyperplasia of bone marrow, advanced.

Rheumatic heart disease with interadherence of aortic cusps, minimal, and Aschoff bodies in right ventricular myocardium and left atrial endocardium, slight.

Diffuse interstitial myocarditis (rheumatic?), moderate.

Chronic passive congestion of liver, advanced, and acute congestion of spleen, advanced.

Ascites (200 cc.).

Acute tubular necrosis of adrenals, advanced.

Organized thrombus in tributary of central adrenal vein.

Peptic ulcer of stomach with thrombosed artery at the base and an adherent thrombus.

Dilatation of pancreatic acini and focal pancreatitis, slight.

Periportal hepatitis, moderate.

Erythematous rash of skin of anterior chest, moderate, and of shoulders and back, slight.

Multiple puncture wounds and venesection wounds.

Accessory

Congenital diverticula of aqueduct of Sylvius.

Fungus (monilia?) infection of cervix, slight.

COUNTY SOCIETIES

Dr. Alexander Marble, Boston, was guest speaker at a meeting of the Sedgwick County Medical Society held at Wichita on November 1. His subject was "Current Trends in Diabetes." In the afternoon of that day, Dr. Marble was speaker at a clinical conference at Wesley Hospital with Dr. T. J. Luellen and Dr. B. M. Matassarin as moderators.

A meeting of the Wyandotte County Society was held in Kansas City on November 15. Dr. George Higgins spoke on "Femoral Hernia" and illustrated his talk with movies. Dr. C. F. Kittle discussed "Hypothermia."

Dr. Harold F. O'Donnell, Dr. William H. Browning, and Dr. D. Cramer Reed were guest speakers at the October meeting of the Lyon County Society. The subject discussed was "Prostatic Obstruction."

Dr. John Reynolds, Chicago, spoke on "Treatment of Intestinal Obstructions" at a meeting of the Shawnee County Society held in Topeka on November 7. The group later watched the television program sponsored by Ciba Pharmaceutical Products featuring the Menninger Foundation.

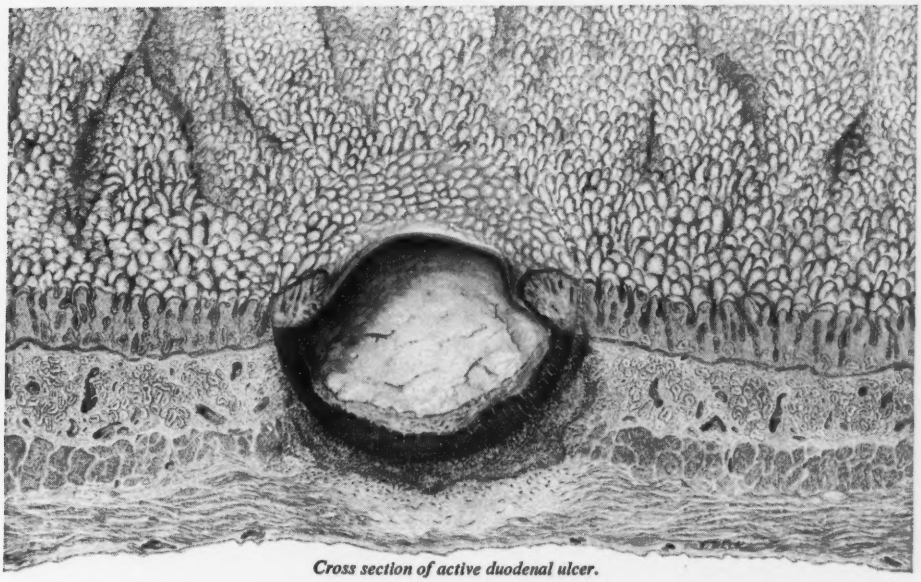
The Cherokee County Society was host to the Southeast Kansas Medical Society at a Christmas party at the Columbus Country Club on December 8. A social evening was enjoyed by the doctors and their wives.

Members of the Marion County Society entertained the Tri-County Medical Society at a dinner meeting at the Legion Hall in Marion on November 10. Physicians from Hutchinson were guests in addition to members of the Harvey and McPherson county societies. Dr. G. O. Proud, of the University of Kansas Medical Center, spoke on "Recurrent Otitis Media." At the business session Dr. Harold M. Glover, councilor for the district, discussed the plan for collecting funds for the American Medical Education Foundation.

Members of the societies in the First Councilor District met at the Cody Hotel, Leavenworth, on November 10. Dr. Conrad M. Barnes, Seneca, president of the Kansas Medical Society, was a special guest, and Mr. Oliver E. Ebel and Mr. Rueben M. Dalbec, of the executive office, also attended. Dr. W. Clarke Wescoe, dean of the University of Kansas School of Medicine, was speaker of the evening and discussed the American Medical Education Foundation. Mr. Dalbec spoke on welfare plans. Members of the Auxiliary, who were present for a dinner preceding the meeting, held a separate session with Mrs. Barrett A. Nelson, Manhattan, as speaker.

A symposium on the health hazards of chemicals will be held before the pharmacy section at the annual meeting of the American Association for the Advancement of Science in Atlanta in December. This program, sponsored by the Committee on Toxicology of the A.M.A., is designed to further education on the dangers of chemical products used in the home, on the farm, and in industry. It is estimated that 3,300 deaths each year result from misuse of chemicals.

PRO-BANTHĪNE® IN DUODENAL ULCER



Cross section of active duodenal ulcer.

Dramatic Remission of Ulcer Pain

Pain of ulcer is associated with hypermotility; the pain is relieved when abnormal motility is controlled by Pro-Banthīne.

"In studying[1] the mechanism of ulcer pain, it is obvious that there are at least two factors which must be considered: namely, hydrochloric acid and motility.

"... our studies indicate that ulcer pain in the uncomplicated case is invariably associated with abnormal motility....

"Prompt relief of ulcer pain by ganglionic blocking agents ... coincided exactly with cessation of abnormal motility and relaxation of the stomach."

Pro-Banthine Bromide (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is a new, improved, well tolerated anticholinergic agent which consistently reduces hypermotility of the stomach and intestinal tract. In peptic ulcer therapy[2] Pro-Banthine has brought about dramatic remissions, based on roentgenologic evidence. Concurrently there is a reduction of pain, or in many instances, the pain and discomfort disappear early in the program of therapy.

One of the typical cases cited by the authors[2] is that of a male patient who refused surgery despite the presence of a huge crater in the duodenal bulb.

"This ulcer crater was unusually large, yet on 30 mg. doses of Pro-Banthine [q.i.d.] his symptoms were relieved in 48 hours and a most dramatic diminution in the size of the crater was evident within 12 days."

Pro-Banthine is proving equally effective in the relief of hypermotility of the large and small bowel, certain forms of pylorospasm, pancreatitis and ureteral and bladder spasm. G. D. Searle & Co., Research in the Service of Medicine.

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1. Ruffin, J. M.; Baylin, G. J.; Legerton, C. W., Jr., and Texter, E. C., Jr.: Mechanism of Pain in Peptic Ulcer, Gastroenterology *23*:252 (Feb.) 1953.

2. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthine, Gastroenterology *25*:416 (Nov.) 1953.

SEARLE

THE MONTH IN WASHINGTON

Editor's Note. The following summary of Washington news was prepared by the Washington office of the A.M.A. for distribution to state and regional medical journals.

If advance signs mean anything, the Eisenhower administration next year can be expected to ask Congress for substantially more money for medical research, both direct research by scientists on the U. S. payroll and grants to others.

Currently the federal government is spending more money on medical research than at any time in history—almost $98 million through the National Institutes of Health alone. In addition, other millions are being spent on medical research in the Department of Defense, Veterans Administration, and other agencies. Much of it is difficult to isolate in the federal budget.

A special committee named by the National Science Foundation at the request of former Secretary Hobby has been at work for some time on an appraisal of HEW's medical research programs. Its report, due before the reconvening of Congress, should be valuable to both the administration and the appropriations committees.

A few examples of what is happening this year:

National Cancer Institute has $24.8 million to spend, about three million more than last year, with two-thirds going out in grants to non-federal researchers. National Heart Institute also is working on a much more liberal budget, $18.7 million in contrast to last year's $16.6 million. Because of the spectacular publicity now being given to heart research as a consequence of President Eisenhower's illness, it is a foregone conclusion that next year this institute will get a great deal more money.

The Mental Health Institute is profiting by the largest single increase of any research operation, almost $4 million, from $14.1 to $18 million. Here again the prospects are for a substantial increase next year; problems of mental health are receiving much public attention, a situation that will not be ignored by Congress. Furthermore, the nationwide survey of mental health problems now about to get under way will point up the shortcomings in mental health research and be an additional argument for more U. S. dollars.

All the other research institutes also shared in last session's Congressional generosity. The Institute of Arthritis and Metabolic Diseases has about $2.5 million more, $10.7 million instead of the $8.2 million of last year. The Institute for Neurological Diseases and Blindness went from $7.6 million to $9.86 million, the Microbiological Institute from $6.1 million to $7.5 million, and the Dental Health Institute from $1.9 to $2.1.

As has been customary with recent Congresses, Senate and House this year actually voted more money for medical research than the Bureau of the Budget permitted Public Health Service to request. That may not be the situation when appropriation bills come up next session. Secretary Folsom of the Department of Health, Education, and Welfare did not take office until Congress was about to adjourn last summer, but since then he has repeatedly gone on record in favor of even greater U. S. expenditures for research. In October Mr. Folsom declared:

". . . Today we find new problems and new opportunities. We find that heart disease, and cancer and arthritis, are taking an increasing toll. And so today as a nation we are changing our lines of battle to fight this increase in chronic and major diseases. All the facts point to one great need. It is the need for more research—to learn how these chronic diseases are started, so they can be prevented; to learn to detect them in the early stages, so they can be cured. . . ."

Again in November, addressing a conference on antibiotics, Mr. Folsom struck the same key, only this time more firmly. After noting that the U. S. now is spending over 12 times more on medical research than it was spending in 1946, he declared: "We must seriously consider making even more funds available for medical research to bring even greater benefits to humanity."

The Joint Congressional Committee on the Economic Report may have some health legislation to offer next year as a result of a study of the problems of the low-income family, including methods of paying hospital, physician, and drug bills.

Dr. Frank B. Berry, assistant defense secretary for health and medical matters, in his annual report warns that the doctor procurement problem again may become acute, despite last summer's two-year extension of the act. He said the department may not be able to obtain all the older physicians it needs because of the amendment barring the drafting of men over 35 if they have applied for a medical commission and been rejected on purely physical grounds. Also, Dr. Berry thinks the ratio of three physicians per 1,000 of troops may be too narrow a margin for safety.

KNOX Protein Previews

New Knox Food Exchange Chart
Eliminates Calorie Counting

To help your obese patients reduce and stay reduced, Knox introduced this year a new dieting plan based on the use of nutritionally tested Food Exchanges.[1] The very heart of this new dietary is a "choice-of-foods diet list" chart which presents diets of 1200, 1600 and 1800 calories.

Each of these diets may be easily modified to meet special needs. However, the important points for your patients are that the use of this chart eliminates calorie counting, permits the patient a wide range of food choices and dispels that old empty feeling by allowing between-meal snacks.

These advantages should make your management of difficult and average cases easier. If you would like a supply of the new Knox charts for your practice, just fill in the coupon below.

1. Developed by the U. S. Public Health Service assisted by committees of The American Diabetes Association, Inc. and The American Dietetic Association.

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Johnstown, N. Y.

Please send me____copies of the new, color-coded "choice-of-foods diet list" chart.

YOUR NAME AND ADDRESS:

ACTIVITIES OF MEMBERS

Dr. Leo Haughey, Concordia, addressed the Rotary Club there recently on the subject of "Rejuvenation."

Dr. Joseph A. Budetti, Wichita, was in Chicago recently to attend meetings of the American Academy of Otolaryngology and the American Otorhinologic Society for Plastic Surgery, Inc. At the latter meeting he was elected to fellowship in the society.

Dr. M. M. Swan, Great Bend, showed a film, "The Valiant Heart" at the October meeting of the Parent-Teacher Association in Claflin. He later discussed rheumatic fever and conducted a question and answer period on heart disease.

Dr. William C. Menninger and Dr. Karl A. Menninger and the Menninger Foundation, Topeka, received Albert Lasker awards for 1955 at a presentation ceremony in Kansas City on November 17. The awards were set up under a foundation established by the late Albert Lasker, an advertising executive who died in 1952, to foster medical research and public education on major diseases.

Dr. F. Carter Newsom, Wichita, discussed mental illness before the Wichita Psychology Club at a recent meeting.

Dr. Maurice A. Walker, Kansas City, has been named to the Kansas City Urban Renewal Agency, a group set up under a 1955 Kansas law authorizing cities to participate with the federal government in redeveloping sub-standard areas.

Dr. Sam Zweifel, Jr., Kingman, recently addressed the Kingman County Nurses Association on the subject of new drugs and their uses and effects.

Dr. Harry Lutz, Augusta, head of the Butler-Greenwood Health Department, told the story of health organizations to the Augusta Rotary Club last month.

Dr. Donald L. Rose, director of physical medicine at the University of Kansas Medical Center, has

DEATH NOTICES

James Willboarn S. Cross, M.D.

Dr. J. W. S. Cross, 88, pioneer physician of Osborne County, died at his home in Osborne on October 16. He was an honorary member of the Osborne County Medical Society. He had practiced for 62 years, since his graduation from Northwestern Medical College, St. Joseph, Missouri, in 1893. He received his Kansas license in 1901 and practiced in Portis and Osborne except during World War I when he was in the Army medical corps. At the time of his death he was serving as county health officer and coroner.

Charles Melbourne Miller, M.D.

An active member of the Northwest Medical Society, Dr. C. M. Miller, 77, died at Oakley on October 16. He was graduated from the Kansas City Medical College in 1905 and immediately began practice in Oakley, leaving there to serve in the medical corps during the Spanish-American War and World War I and to serve as physician for the Union Pacific Railway Company in Ellis from 1928 to 1930. He was a member of the Oakley City Council for many years and served in the state legislature in 1951 and 1952. He received a tribute from the community on "Dr. Miller Day" in 1952, and is now being honored by the establishment of a memorial fund in his name, proceeds of which will be used to purchase equipment for the Logan County Memorial Hospital.

Victor G. Haury, Sr., M.D.

Dr. V. G. Haury, 50, an active member of the Franklin County Medical Society, with offices in Wellsville, died at Bethany Hospital, Kansas City, on November 11 after an illness of two weeks. A graduate of the University of Minnesota Medical School in 1935, Dr. Haury did postgraduate work in Pennsylvania and Minnesota and served as a research assistant in pharmacology at the Minnesota school and as associate professor of pharmacology at Jefferson Medical College, Philadelphia. He was in private practice in Audubon, New Jersey, before coming to Kansas to open his office in Wellsville in 1947.

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Only a Penny or Two More
Than Cigarettes Without Filters

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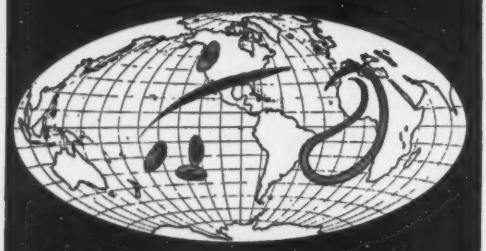

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been appointed rehabilitation consultant to the State Hospital Advisory Council. The new post is required by the amended Hill-Burton Hospital Construction Act.

A feature story about Dr. W. L. Warriner, 93-year-old practicing physician in Topeka, was published in the *Topeka State Journal* on November 1.

A talk on heart disease was given by Dr. Porter M. Clark, Independence, at a recent meeting of the Rotary Club in that city.

Dr. Henry Wallace Lane, Kansas City, was named president-elect of the Local Health Officers Association of Kansas at a meeting held recently in Chanute.

Governor Fred Hall has appointed Dr. John G. Hoffer, Medicine Lodge, as coroner of Barber County to fill the unexpired term of Dr. John D. Hilliard who has resigned.

Dr. Harold W. Brooks, Wichita, described plastic surgery for x-ray burns at a recent meeting of radiologists in the Sixth District.

Dr. William J. Reals, Wichita, presented a paper, "Protein Bound Iodine," at a meeting of the College of American Pathologists in Chicago recently.

ANNOUNCEMENTS

The American College of Chest Physicians, through its Council on International Affairs, will hold its fourth international congress on diseases of the chest in Cologne, Germany, August 19-23, 1956. The scientific program is now being organized, and physicians who have work they wish to present are invited to send outlines of their studies to Dr. Andrew L. Banyai, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Essays for competition in the annual contest sponsored by the Mississippi Valley Medical Society will be accepted until May 1, 1956. Manuscripts must not exceed 5,000 words. Any subject of medical or surgical interest, including medical economics and education, may be covered. Author of the winning

essay will receive a price of $100, a gold medal, and a certificate. Details may be secured from the Society, 209-224 W.C.U. Building, Quincy, Illinois.

A six-day postgraduate course designed especially for the general practitioner will be offered at the University of Colorado Medical Center, 4200 East Ninth Avenue, Denver 20, Colorado, January 16 through 21. A full day of discussion will be devoted to each of six areas: Monday, medicine; Tuesday, pediatrics; Wednesday, surgery; Thursday, psychiatry and psychosomatic medicine; Friday, obstetrics and gynecology; Saturday, fluid and electrolyte balance. Information may be obtained from the Director of Postgraduate Medical Education.

The 19th annual meeting of the New Orleans Graduate Medical Assembly will be held February 27, 28, 29 and March 1 at the Municipal Auditorium in that city. A tour to the West Indies and Central America will follow the meeting. Information may be secured from Maurice E. St. Martin, M.D., Secretary, 1430 Tulane Avenue, New Orleans.

The next scheduled examination (Part I) for candidates for certification by the American Board of Obstetrics and Gynecology will be held in various cities of the United States, Canada, and military centers on Friday, February 3, 1956. Twenty case abstracts are to be sent to the secretary of the board, Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6, Ohio, as soon as possible after candidates receive notice of eligibility.

The Department of Medicine at the University of Kansas School of Medicine has announced new postgraduate opportunities of in-residence training in the fields of cardiovascular disease and pulmonary disease. The programs are of one month's duration and are limited to two enrollments in each field.

Starting dates for training in cardiovascular disease are November 1, March 1, April 1, and May 1. Training in pulmonary disease will begin November 1, January 2, April 1, and May 1.

Applications may be directed to Department of Postgraduate Medical Education, University of Kansas School of Medicine, Kansas City.

Announcement was recently made of a program of cancer fellowships and residencies offered by 16 divisions of the University of Texas M. D. Anderson Hospital and Tumor Institute. Complete information may be secured from Grant Taylor, M.D., Office of Education, Texas Medical Center, Houston 25, Texas.

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Bumbalo, T. S., Gustina, F. J., and Oleksiak, R. E.: J. Pediat. 44:386, 1954.

White, R. H. R., and Standen, O. D.: Brit. M. J. 2:755, 1953.

against ROUNDWORMS

"Ninety per cent of the children passed all of their ascarides . . ."

Brown, H. W.: J. Pediat. 45:419, 1954.

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Intracavitary Use of Radioactive Colloidal Gold—Au^{198}

Morgan U. Stockwell, M.D.

Kansas City, Missouri

HISTORICAL INTRODUCTION

Many radioactive materials have been used in the field of medicine in the past 15 years. Radioactive gold (Au^{198}) is a relative newcomer to the medical group of radioactive materials. From the literature, it is difficult to determine when colloidal gold (Au^{198}) was first used, but one can be reasonably certain that it was used in the late 1940's. Müller,[1] a Swiss investigator, first suggested its intracavitary use in 1949, and he is believed the first to have used it in this way. Hahn,[1, 2, 3, 4] an American investigator, is believed to have used radioactive colloidal gold before Müller but for uses other than intracavitary.

Müller,[4] in 1950, presented a paper before the International Congress on Radiology in London, reporting four cases treated with radioactive colloidal gold. His first case was one of Hodgkin's disease with pleural effusion. In this paper, published in 1951, he noted "marked drying out of the pleural exudate and a definite reduction of the dyspnoea." At this time he suggested use of radioactive gold in the treatment of serous effusions due to carcinomatosis of the pleura and peritoneum. From this observation has arisen the greatest use of Au^{198}, namely as palliative therapy for effusions associated with carcinomatosis of the serous surfaces.

USES

Reports in the literature show that radioactive Au^{198} has been used in many ways. Most of these uses are today in the experimental stage.

Second only to its intracavitary use is its intraprostatic injection for carcinoma of that organ. It has been injected directly into the spinal canal[23] and intrapericardially[24] for carcinomatosis of the meninges and pericardium.

Radioactive colloidal gold has been used by the intravenous route in the treatment of chronic myelogenous leukemia and as a tracer element in the scintillographic outline studies of the reticuloendothelial system.[27]

Due to its intercavitary transfer, it has also been used in the study of the dynamics of Meigs's syndrome.[26]

ADVANTAGES AND DISADVANTAGES

Carcinomatosis is often associated with effusion in one or more of the serous cavities. This results in mechanical interference with vital body functions.

Following Müller's observation it has been felt by some investigators that radioactive colloidal gold is nearing the ideal for radioactive isotope injection into cavities in the palliation of these effusions.

Radioactive Au^{198} has the advantage of a short half-life (2.7 days) with only 5 to 10 per cent of the initial radioactivity remaining after six to seven days. For this reason very little radioactivity is lost, after one week, when repeat thoracentesis or paracentesis becomes necessary. This also means the therapeutic level can be delivered in a short time without danger of prolonged total body irradiation.[6, 11, 12, 13]

Au^{198} can be produced in great quantities in the nuclear reactor according to the following diagram.[5, 7, 9]

$Au^{197} + N \rightarrow Au^{198}$ (radioactive + gamma rays by neutron bombardment at the Oak Ridge Atomic Energy plant) $\rightarrow$ decay to Hg^{198} (stable).

When $gold^{198}$ is prepared a great deal of carrier in the form of inactive gold persists as such, and the number of $gold^{198}$ particles is few so the amount of stable mercury left is slight.[5]

Radioactive gold has a deleterious effect on the reticuloendothelial system. The particle size is such, however, that it is not picked up in large quantities by the lymphatics for transmission via the blood stream to the reticuloendothelial system. Less than 0.2 per cent of the given dose is detected in the circulating blood at any one time during the first 10 days.[7, 10]

Approximately 90 per cent of the total irradiation effect is contributed by the beta particle. The radiation depth of the beta particle in tissue is approximately 3 mm. This short ray permits rather selective irradiation of the lining serosal surfaces in combating serous effusions without undue irradiation to other body tissues. The presence of the relatively small amount of long range gamma rays permits detection and measurement of radioactivity by use of the Geiger counter just as in the case of radioactive iodine studies.[3, 8, 9, 10, 11, 12, 13]

The insoluble nature of radioactive Au^{198} renders it chemically inert. There is none of the toxicity of a metallic salt. Insolubility plus its relatively large colloidal particle size promotes some degree of locali-

This is one of 11 theses, written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Stockwell is now serving his internship at St. Mary's Hospital, Kansas City, Missouri. The author expresses thanks to Donald Germann, M.D., radiologist at the University of Kansas Medical Center, for technical assistance and use of case material.

When little patients balk at scary, disquieting examinations (before you've begun) . . .

When they're frightened and tense (and growing more fearful by the minute) . . .

When they need prompt sedation (and the oral route isn't feasible) . . . try

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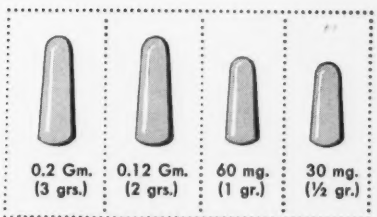

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zation of injected materials, thus giving a theoretical uniform irradiation. Furthermore, side reactions seen with standard x-ray therapy are much greater than with Au^{198}. The large doses of x-ray required to produce a similar effect result frequently in nausea, vomiting, leukopenia, and extensive body tissue reactions.[5, 11, 12, 13, 14]

The two most appealing aspects of gold therapy are the short hospitalization time requirement and the minimal discomfort to the patient.[29]

Disadvantages appear to be few. There is no affinity for either normal or tumor tissue as is seen with iodine for the thyroid gland and gallium for bone.[2]

Radioactive colloidal gold apparently has no curative value. However, it is of palliative value in many effusions of neoplastic origin.

The long term effect of Au^{198} is not known. Therefore, it should not be used with abandon. To date this fact has not been of importance since only those patients dying of carcinoma have been treated.

MODE OF ACTION

Andrews, Root, and Kniseley[15] state that following injection of the gold it is rapidly removed from the free fluid and fixed on the serosal lining, mostly in phagocytes. Some is also adsorbed onto the serous membrane. The distribution on the walls is uneven and without any special affinity for tumor implants or normal tissue. Other investigators are in agreement with these observations.[8, 11, 12, 16, 18]

For a variable length of time following Au^{198} injection, repeat thoracenteses or paracenteses show reduction or complete absence of tumor cells in the aspirated fluid. Many times the fluid will have changed from bloody to a clear solution.[12] Furthermore, the aspirated fluid was seen to be relatively free of radioactive material after 10 days, making repeat thoracentesis and paracentesis relatively safe.[6, 9, 12, 15, 16, 18, 19] Pathological studies show the beta radiation effect to be essentially that of fibrosis with thickening of the pleura and peritoneum. The fibrosis and vascular obliterative effect is limited to superficial areas since the beta ray penetrates only 3 to 4 mm. into tissue whether it be neoplastic or normal.[12, 15, et al.]

Little is known about the origin of effusion associated with carcinomatosis of the serous membrane lined cavities. Since the origin of the effusion is not known, the exact mode of action of radioactive gold in its control cannot be explained. Following Au^{198} therapy, an appreciable number of patients are relieved of the distress associated with massive effusion. The chain of events in the fluid accumulation is somehow interrupted.

The theories are as follows:

A. Radioactive gold exerts a direct action on the malignant cells to destroy them and thus control the effusion.[6]

B. There is a non-specific action of gold upon the secreting surfaces.[6]

C. The Au^{198} somehow affects the tumor seedlings on the serous surfaces to stop their fluid stimulating effect.[9, 11]

D. The primary effect of radioactive gold is probably by fibrosis and obliteration of the vascular supply to the serous membranes and thus prevention of fluid escape.[11]

Most investigators accept the fact that the exact mechanism of fluid control is not known. They feel that a combination of factors is at work. The factors involved appear to be the direct action of Au^{198} upon the free and fixed tumor cells, along with the fibrotic changes, somehow interrupting the chain of events in the effusion and giving relief to the recipient.[12, 15, 16]

SELECTION OF PATIENTS

The most important use of radioactive colloidal gold is in the palliation of malignant effusion. When mechanical interference with vital functions is such that frequent thoracenteses or paracenteses are required, Au^{198} is indicated. This is the sole criterion for its use. Since radiogold has not shown curative value for carcinomatosis, mechanical embarrassment is used as the indicator.[1, 6, 8, 9, 10]

Cancer patients often suffer more from effusion than from the disease itself. Au^{198} can be used effectively to supplant x-ray or more frequently as an adjuvant to x-ray in its control.[12, 13]

The University of Kansas Medical Center will accept patients for gold therapy if the following criteria are met:[29]

A. If the patient is suffering from effusion of malignant origin.

B. If the effusion is producing mechanical interference with vital functions.

C. If the patient is not obviously terminal.

D. If the fluid is freely movable as determined by physical examination and x-ray (i.e., fluid is not "pocketed").

E. If the effusion (ascites) is not due to cirrhosis with hepatic obstruction.

F. If multiple large masses are not present (no beta radiation would penetrate large masses).

G. If intestinal obstruction is not impending (should not do surgery for at least 10 days following radiogold instillation).

DOSAGE

The optimum dosage has not yet been determined. In early cases some administered multiple small doses. The tendency at present is to administer a single dose.

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zation of injected materials, thus giving a theoretical uniform irradiation. Furthermore, side reactions seen with standard x-ray therapy are much greater than with Au^{198}. The large doses of x-ray required to produce a similar effect result frequently in nausea, vomiting, leukopenia, and extensive body tissue reactions.[5, 11, 12, 13, 14]

The two most appealing aspects of gold therapy are the short hospitalization time requirement and the minimal discomfort to the patient.[29]

Disadvantages appear to be few. There is no affinity for either normal or tumor tissue as is seen with iodine for the thyroid gland and gallium for bone.[2]

Radioactive colloidal gold apparently has no curative value. However, it is of palliative value in many effusions of neoplastic origin.

The long term effect of Au^{198} is not known. Therefore, it should not be used with abandon. To date this fact has not been of importance since only those patients dying of carcinoma have been treated.

MODE OF ACTION

Andrews, Root, and Kniseley[15] state that following injection of the gold it is rapidly removed from the free fluid and fixed on the serosal lining, mostly in phagocytes. Some is also adsorbed onto the serous membrane. The distribution on the walls is uneven and without any special affinity for tumor implants or normal tissue. Other investigators are in agreement with these observations.[8, 11, 12, 16, 18]

For a variable length of time following Au^{198} injection, repeat thoracenteses or paracenteses show reduction or complete absence of tumor cells in the aspirated fluid. Many times the fluid will have changed from bloody to a clear solution.[12] Furthermore, the aspirated fluid was seen to be relatively free of radioactive material after 10 days, making repeat thoracentesis and paracentesis relatively safe.[6, 9, 12, 15, 16, 18, 19] Pathological studies show the beta radiation effect to be essentially that of fibrosis with thickening of the pleura and peritoneum. The fibrosis and vascular obliterative effect is limited to superficial areas since the beta ray penetrates only 3 to 4 mm. into tissue whether it be neoplastic or normal.[12, 15, et al.]

Little is known about the origin of effusion associated with carcinomatosis of the serous membrane lined cavities. Since the origin of the effusion is not known, the exact mode of action of radioactive gold in its control cannot be explained. Following Au^{198} therapy, an appreciable number of patients are relieved of the distress associated with massive effusion. The chain of events in the fluid accumulation is somehow interrupted.

The theories are as follows:

A. Radioactive gold exerts a direct action on the malignant cells to destroy them and thus control the effusion.[6]

B. There is a non-specific action of gold upon the secreting surfaces.[6]

C. The Au^{198} somehow affects the tumor seedlings on the serous surfaces to stop their fluid stimulating effect.[9, 11]

D. The primary effect of radioactive gold is probably by fibrosis and obliteration of the vascular supply to the serous membranes and thus prevention of fluid escape.[11]

Most investigators accept the fact that the exact mechanism of fluid control is not known. They feel that a combination of factors is at work. The factors involved appear to be the direct action of Au^{198} upon the free and fixed tumor cells, along with the fibrotic changes, somehow interrupting the chain of events in the effusion and giving relief to the recipient.[12, 15, 16]

SELECTION OF PATIENTS

The most important use of radioactive colloidal gold is in the palliation of malignant effusion. When mechanical interference with vital functions is such that frequent thoracenteses or paracenteses are required, Au^{198} is indicated. This is the sole criterion for its use. Since radiogold has not shown curative value for carcinomatosis, mechanical embarrassment is used as the indicator.[1, 6, 8, 9, 10]

Cancer patients often suffer more from effusion than from the disease itself. Au^{198} can be used effectively to supplant x-ray or more frequently as an adjuvant to x-ray in its control.[12, 13]

The University of Kansas Medical Center will accept patients for gold therapy if the following criteria are met:[29]

A. If the patient is suffering from effusion of malignant origin.

B. If the effusion is producing mechanical interference with vital functions.

C. If the patient is not obviously terminal.

D. If the fluid is freely movable as determined by physical examination and x-ray (i.e., fluid is not "pocketed").

E. If the effusion (ascites) is not due to cirrhosis with hepatic obstruction.

F. If multiple large masses are not present (no beta radiation would penetrate large masses).

G. If intestinal obstruction is not impending (should not do surgery for at least 10 days following radiogold instillation).

DOSAGE

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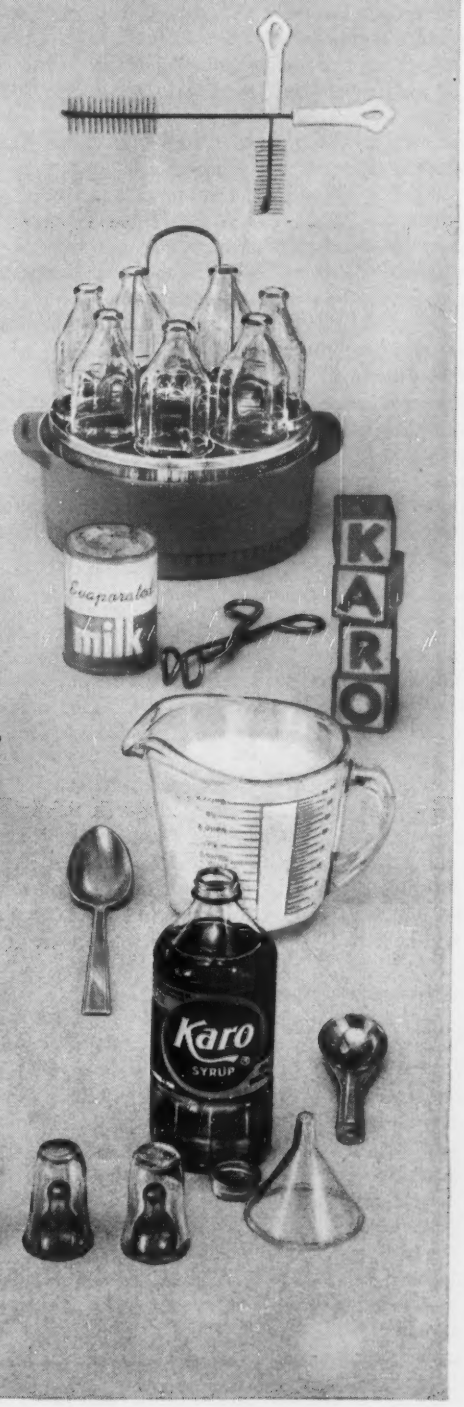

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At the University of Kansas Medical Center[29] it is now customary to administer 150 millicuries intraperitoneally and 100 millicuries by pleural injection. This is sometimes altered slightly from case to case, according to the size of the patient. This routine corresponds favorably with that of most other workers in the radiogold field.

Andrews et al.[1] suggest single large doses and "not too hasty retreatment" since a lag, of a few days to weeks, is seen in response of the patient. This observation has been made at the University of Kansas Medical Center as well as by other investigators.[1, 8]

Possibly less than the stated dosage would give satisfactory results, but as yet insufficient work has been done to determine the optimum.

Goldie, Watkins, Powell, and Hahn[28] conducted experiments on mice to determine dosage—effect correlation. They used mice in which they had implanted sarcoma into the body cavities. From these experiments they made some interesting observations. "Thus the variations of the radiotherapeutic effect are manifestations of various combinations of the amount of radiation with biological factors inherent in the tumor strain, mouse strain, or individual mice." They also stated that the intensity of the effect was distinctly proportional to the dose of injected radioactive colloidal gold.

TECHNIQUE

The patient is admitted to the hospital, and routine work-up is done. In addition, fluoroscopy and x-ray studies are made to determine whether the fluid in the thoracic or abdominal cavity is freely movable. Radioactive gold is usually not injected into localized pockets of fluid.[29]

When the patient is deemed a candidate for gold therapy, he is prepared as for a routine thoracentesis or paracentesis. The cavity puncture is accomplished and some fluid is withdrawn. An attempt is made to roughly estimate the amount of fluid so enough can be left that even distribution throughout the cavity will be attained. In general the aim is to leave 500 to 1,000 cc. in the pleural cavity and 1,000 to 1,500 cc. in the peritoneal cavity.[29]

After withdrawal of the desired fluid the patient is ready for the radiogold instillation. Injection of the cherry red, radioactive sterile colloidal gold is then accomplished through a polyethylene tubing connecting the gold solution to the trocar previously inserted into the body cavity. The therapist injects saline solution through the polyethylene tube into the gold container. This in turn forces the gold from the container into the tubing connecting the container with the body cavity. A total of approximately 100 cc. is injected into the cavity. The greater part of this volume is saline solution used to flush the gold from its container and tubing. The entire procedure takes only a few minutes.[29]

The patient is returned to bed and instructed in postural exercises to aid in even distribution of the gold solution. He is observed for side reaction for two to three days, then discharged. Total hospitalization time is usually five to six days.[29]

This procedure is the one used in the University of Kansas Medical Center. The procedure varies only slightly from that used in most hospitals administering radiogold.

SIDE EFFECTS

Radiogold appears to be tolerated quite well by the majority of patients. The most frequent complaint encountered is mild nausea of three to four days' duration. Vomiting occurs in a few of the patients. Gravidox and Thorazine give satisfactory control for most cases of nausea and vomiting.[29]

No significant degree of radiation sickness is usually encountered. The reactions are considerably less than those seen with roentgen ray therapy.[1, 6, 7]

Bone marrow depression is occasionally seen. One author[29] states that apparently little bone marrow depression is seen in the average patient receiving intracavitary gold until 200 to 250 millicuries is administered. The bone marrow depression that does occur is of short duration.[8, 13] Mild pleuritis and diarrhea occur infrequently and also are of short duration.

Intestinal obstruction is said by some to be a late sequela of treatment in a few patients. This is thought to be due to extensive fibrosis created by the radiogold.[8, 9]

Despite these infrequent severe side reactions, most investigators agree that the use of radiogold is a relatively safe therapeutic procedure.

RESULTS

This report includes 31 patients treated with radioactive gold at the University of Kansas Medical Center from January, 1952, to November, 1954.

These cases are evaluated on a total case basis, and as a comparison of the results of the thoracic cases with those of the abdominal cases. Results are further broken down into those who have lived for more than one month following therapy. This is done because it has been shown that the therapeutic effect of radiogold is not immediate. There is approximately a one-month lag period between the instillation of radiogold and a clinically observed response.

The cases are classified as "distinct palliative relief" and "minimal or no relief." In general, if the taps required were reduced by 50 per cent or more, in number and in amount of fluid removed, a distinct palliative relief was felt to have occurred. Patients who had not responded by at least a 50 per cent reduction in the number of taps were considered to have received minimal or no relief.

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Total cases studied (K.U.M.C.)	31	
Distinct palliative relief	17	54.9%
Minimal or no relief	4	12.9%
Unable to evaluate	10	32.2%
	31	100.0%

Of the 31 patients treated, 21 were followed for a period adequate for evaluation. Seventeen of these 21 patients received definite benefit from their therapy and four received minimal or no benefit. When excluding the 10 patients classified under "unable to evaluate," it is seen that 80.9 per cent of those treated received distinct palliative relief from effusions. The group of 10 patients classified "unable to evaluate" includes seven patients who died in one month or less following radiogold therapy and three patients on whom no follow-up information was available.

The above results correspond favorably with those of several series reported.[1, 3, 6, 7, 8, 14, 25] In one series of 16 cases, the author reports good palliative results in 25 per cent. In another series[6] of 74 cases the author reports favorable results in 50 per cent of the total cases, and of those living more than one month 74 per cent received distinct palliative relief. This author further stated that the site of the primary tumor responsible for the effusion did not affect the response to therapy. Another author[14] also reports there was no correlation between the primary neoplasm and the benefit derived. This same report stated that 30 to 50 per cent of all cases received benefit. When those dying in the first month were excluded, 60 to 70 per cent received palliative relief. Relief from effusion was the only favorable response noted in the patients of this series.

In a series of 36 cases, one author[5] observed that the condition of the patient after therapy depended upon the extent and course of the neoplastic disease. The course of the primary disease was not altered by radioactive gold.

There are several changes which occur in the effusion following radiogold instillation. One author[1] reports that the fluid is decreased or stopped within a few weeks after therapy. Furthermore, the fluid changes from bloody to clear and becomes free of malignant cells. This is in accord with observations made on the 31 cases herein reported.

Total abdominal cases studied (K.U.M.C.)	19	
Distinct palliative relief	10	52.6%
Minimal or no relief	3	15.8%
Unable to evaluate	6	31.6%
	19	100.0%

Thirteen intraperitoneal cases were followed for an adequate length of time. Of these, 76.9 per cent were seen to receive distinct palliative relief. In this group carcinoma of the ovary was the most frequent cause of the ascites. The site of the primary tumor was not varied enough to enable evaluation of tumor site—response correlation. The sex response could not be evaluated since only three of the total of 31 cases were male patients.

Total thoracic cases (K.U.M.C.)	12	
Distinct palliative relief	7	58.3%
Minimal or no relief	1	8.3%
Unable to evaluate	4	33.4%
	12	100.0%

Twelve cases were treated by the intrapleural route and were available for adequate follow-up information. Of these, 87.5 per cent responded with distinct palliative relief. This appears to be in keeping with other reports.[9] There is usually a slightly better response from pleural than from abdominal effusions. The breast was the most frequent site of the primary lesion responsible for the pleural effusion.

In the typical case requiring weekly taps and responding to gold therapy, there is a rather patterned response. The patient would probably require another tap 10 days following gold instillation. Another tap would be needed at four weeks with a lesser amount removed. An additional tap would be needed at six weeks with a smaller amount removed, and the cavity would then probably remain relatively dry for a variable period. This time varies from a few weeks to several months. One patient in this series went nine months and another for one year without a tap.[29]

Some patients respond well, then after a few months develop fluid again. These may be retreated. Two such cases are included in this series. The follow-up information on these two cases is not adequate for proper evaluation. No ill effects were recorded, and good results could be expected.

SUMMARY

In a significant number of cases there will be distinct palliative relief to the patient suffering from massive malignant effusion. The intracavitary use of radioactive colloidal gold (Au^{198}) does not prolong life to any appreciable extent but it does add to the comfort of those suffering from effusion. It is a good adjuvant[14] to x-ray therapy and is superior to it[1, 12, 13] with less radiation sickness. The studies thus far are encouraging in controlling and giving relief from effusion to the cancer patient.

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The book is well organized, well written, and contains many good illustrations, and with the emphasis on the clinical relationship and mechanism of production of symptoms it has taken on an increased value for the surgical profession. It should be a well received and well used volume.—*O.R.C.*

Office Procedures. By Paul Williamson, M.D. Published by W. B. Saunders Company, Philadelphia. 412 pages, illustrated. Price $12.50.

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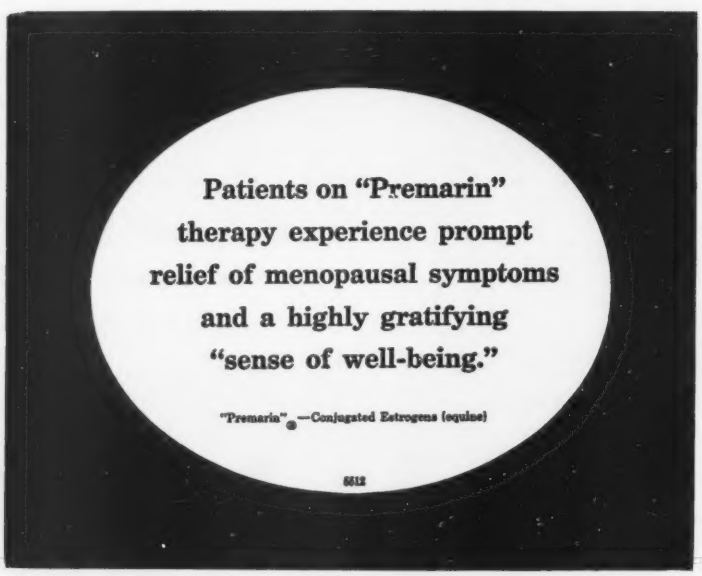

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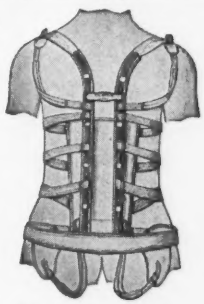

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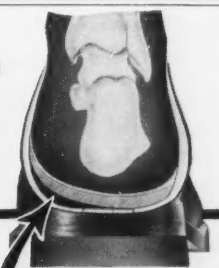

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The Practice of Dynamic Psychiatry. By Jules H. Masserman, M.D. Published by W. B. Saunders Company, Philadelphia. 790 pages. Price $12.

This is especially valuable as a textbook because it covers such a wide scope of psychiatric and psychological concepts. The early chapters cover basic concepts of psychiatry. Suggestions and illustrations concerning the importance of the doctor-patient relationship, history taking, interviewing, and diagnosis are covered. The book then branches out to discuss various schools of psychology, a number of Dr. Masserman's own concepts, and a detailed discussion of dynamic psychotherapy. It is valuable to both the beginner and the trained psychiatrist.—*P.C.L.*

Preventive Medicine in World War II, Volume II, Environmental Hygiene. Edited by Col. John Boyd Coates, Jr., M. C., and Ebbe Curtis Hoff, M.D. Published by Office of Surgeon General, Department of the Army, Washington, D.C. 404 pages. Price $3.50.

This volume was prepared for publication in the historical unit of the Army Medical Service. It is not a text on sanitary engineering, but rather a record of the problems and military aspects of hygiene as they arose in World War II.

After every war, it is only natural and to be expected that accomplishments, and the lack of them, should be recorded. The book is a straightforward account of the role which the medical department played in the field of environmental hygiene. In various chapters, written by different authors, the following subjects are covered: food management, housing, water purification, waste disposal, control of insects, rodent control, research background of insect and rodent control, foreign quarantine, and preventive medicine in ports of embarkation and for persons in transit. The book indicates that the services of the sanitary engineer should be a vital part of any future program of military preventive medicine.—*E.V.T.*

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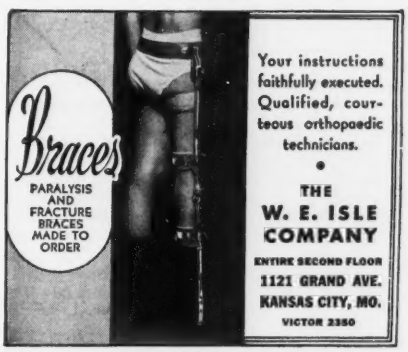

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Burroughs Wellcome and Company, Inc. .... 714 and 715

Chicago Medical Society 721
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Fairmount Hospital 725
Foot-so-Port Shoe Company 727

Goetze Niemer Company 724

Hanicke, P. W., Manufacturing Company 727

Isle, W. E., Company 729

Kansas Oxygen, Inc. 721
Knox, Charles B., Gelatine Company, Inc. 711

Lakeside Laboratories, Inc. V
Lattimore-Fink Laboratories 727
Lederle Laboratories Division, American Cyanamid Company ..... 694 and 695
Lilly, Eli, and Company XIV

Mead Johnson and Company ..... Back cover
Medical Protective Company 725
Menninger Foundation 724
Merchants Finance Corporation, Inc. 727
Munns Medical Supply Company, Inc. 725

National Foundation for Infantile Paralysis 729
Neurological Hospital 729

Parke, Davis and Company .... Inside front cover and III
Petro's Surgical Appliances 729
Physicians Casualty Association 728

Ralph Clinic VI

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Searle, G. D., and Company 709
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Wyeth, Inc. ..... Inside back cover

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INDEX TO VOLUME LVI

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INDEX TO VOLUME LVI

In the list below, the number first mentioned identifies the month of issue.

ORIGINAL ARTICLES

Acute Intussusception Complicated by Mesenteric Lymphadenitis, Suppurative Otitis Media, and Subacute Appendicitis: Report of Case—R. E. Bodmer, M.D., Ronald McCoy, M.D., and Frank Brosius, M.D., Coldwater, Kansas 5-255

Adolescent Conscience, The—Harry G. Gianakon, M.D., Kansas City, Kansas 3-132

Blood Volume in Traumatic and Hemorrhagic Shock—Willard E. Kaufman, M.D., Cleveland, Kansas 2-78

Care of the Terminal Cancer Patient—J. Herbert Nagler, M.D., Philadelphia, Pennsylvania 11-601

Chronic Volvulus of the Cecum and Ascending Colon as a Clinical Syndrome—Edward S. Brinton, M.D., Wichita, Kansas 6-299

Clinical Characteristics of Esophageal Hiatal Hernia—George A. Westfall, Jr., M.D., B. C. Gradinger, M.D., and G. A. Westfall, Sr., M.D., Halstead, Kansas 6-303

Congenital Pulmonary Arteriovenous Fistula—Fethi Gonlubol, M.D., and E. Grey Dimond, M.D., Kansas City, Kansas 3-146

Diverticula of the Urethra in the Male—John I. Waller, M.D., Halstead, Kansas 7-369

Doctor and His Tax Problems, The—Harold R. Schroeder, LL.B., Topeka, Kansas 12-673

Experience with a New Urographic Agent—Hypaque—G. M. Tice, M.D., Kansas City, Kansas 3-130

Future of the Private Practice of Medicine, The—Chester S. Keefer, M.D., Washington, D.C..... 2-68

Heat Stroke: Experience at the Winfield State Training School during a Record Heat Wave—Sherman M. Steinzeig, M.D., Kansas City, Kansas 8-426

Hepatic Coma, A Review of 27 Cases—Charles Andrews, M.D., Mahlon Delp, M.D., and Mary Jane Elliott, R.N., Kansas City, Kansas 3-125

Histoplasmosis—Lewis L. Sandidge, M.D., Wichita, Kansas 6-306

Hypophysectomy in Metastatic Breast Carcinoma: Report of a Case—Philip W. Russell, M.D., Wichita, Kansas 9-481

Laparotomy Incisions—Barrett A. Nelson, M.D., Manhattan, Kansas 1-9

Life Insurance as an Investment—Pendleton A. Miller, C.L.U., Topeka, Kansas 12-683

Local Health Officer, The—The General Practitioner in Public Health—Vernon M. Winkle, M.D., Topeka, Kansas 6-311

Lymphoepithelioma of the Parotid Gland—John G. Shellito, M.D., and Bert E. Stofer, M.D., Wichita, Kansas 9-490

Management of the Chronic Alcoholic—Ebbe Curtis Hoff, M.D., Richmond, Virginia 3-142

Medical Student Looks at Blue Shield, A
William Kent Murphy, Galveston, Texas 11-624
Wilbur C. Pickett, Jr., Baltimore, Maryland 9-493
Carl B. Younger, Los Angeles, California 10-554

More Family Income through Mutual Funds—Clarence W. Glassen, Phillipsburg, Kansas 12-676

Needed: Wider Medical Interest in Motorist Casualties—Jacob Kulowski, M.D., St. Joseph, Missouri 11-606

Objectives and Functioning of Winfield State Training School—John B. Smith, Winfield, Kansas 5-256

Panhypopituitarism Is Easily Missed—Mark Dodge, M.D., Arthur W. Robinson, M.D., and Arnold V. Arms, M.D., Kansas City, Missouri 2-74

Paper Drum Repair of the Ear—Joseph A. Budetti, M.D., and Ernest M. Seydell, M.D., Wichita, Kansas 7-372

Polyarteritis Nodosa and Cortisone—M. Z. A. Souidan, M.D., Cairo, Egypt 7-377

Present Concept of Industrial and Occupational Medicine, The—Charles F. Shook, M.D., Toledo, Ohio 5-249

Present Status of Treatment of Advanced Laryngeal Cancer: Report of a Case—Paul Guggenheim, M.D., Topeka, Kansas 10-550

Primary Uterine Suspension: A Gynecologist's Views—Dan L. Berger, M.D., Mission, Kansas 10-549

Primary Uterine Suspension: A Surgeon's Views—Donald R. Davis, M.D., Mission, Kansas 10-547

Radioactive Iodine in the Diagnosis and Treatment of Hyperthyroidism—William Emerson White, Kansas City, Kansas 11-610

Salicylate Poisoning—Vincent Ricciutti, M.D., Buffalo, New York 1-5

Six Years Experience with Dicumarol Prophylaxis against Postoperative Thromboembolic Complications in Private Practice—Harry R. Custer, M.D., Colby, Kansas, and Russell L. Mustard, M.D., Battle Creek, Michigan 1-1

Some Basic Principles in the Medical Management of Peptic Ulcer—Arthur P. Klotz, M.D., Kansas City, Kansas 3-136

Succinylcholine Chloride (Anectine®) in the Treatment of Tetanus: Case Report—Maurice M. Tinterow, M.D., Wichita, Kansas 5-252

Sunlight and Cancer—Herbert L. Ketterman, Kansas City, Kansas 1-12

Surgical Treatment of Gastritis, The—John G. Shellito, M.D., and B. E. Stofer, M.D., Wichita, Kansas 8-423

Symptoms from Thymic Enlargement in Young Infants—Richard G. Pugh, M.D., Kansas City, Kansas 8-430

Treatment of Goiter during Pregnancy, The—V. E. Chesky, M.D., C. A. Hellwig, M.D., and R. P. Stoffer, M.D., Halstead, Kansas 7-373

Treatment of Pulmonary Emphysema, The—L. E. Peckenschneider, M.D., Halstead, Kansas 9-486

Tuberculosis Eradication in Kansas—J. Arthur Myers, M.D., Minneapolis, Minnesota 2-63

U. S. Savings Bonds—A Good Investment—George C. Rankin, Topeka, Kansas 12-679

Your Bank's Trust Department in Estate Planning—Robert C. Guthrie, Topeka, Kansas 12-667

INDEX TO VOLUME LVI

In the list below, the number first mentioned identifies the month of issue.

Tumor Conferences from the University of Kansas Medical Center

Carcinoma of the Larynx 5-268
Carcinoma of the Thyroid 2-93
Multiple Polyposis and Carcinomatosis 9-500
Panhypopituitarism: Problems of Etiologic Diagnosis and Therapy 11-638
Solitary Metastases of Carcinoma 7-385

Senior Theses from the University of Kansas School of Medicine

Antabuse as an Adjunct in the Treatment of Chronic Alcoholism—Samuel Rapport, M.D. 7-392
Diagnosis of Carcinoma of the Stomach, The—Raymond Christy, Jr., M.D. 6-352
Epidemiology of Infectious Hepatitis—Monaford D. Durnell, M.D. 3-170
Etiology of Diabetic Neuropathy, The—George E. Langsjoen, M.D. 10-582
Hemodynamic Aspects of Hypertension with Special Reference to the Viscosity of Blood—William F. Casteen, M.D. 11-646
Infectious Hepatitis Complicating Pregnancy—Robert H. Finkle, M.D. 8-448
Intracavitary Use of Radioactive Colloidal Gold—Au^{198}—Morgan U. Stockwell, M.D. 12-716
Johannes Müller, Father of Scientific German Medicine—Thomas J. Fritzlen, M.D. 2-104
Peripheral Embolic Arterial Occlusion—Eugene L. Petry, M.D. 1-30
Report of an Epidemic of Infectious Mononucleosis in a Small College Town—James H. Scanlon, Jr., M.D. .. 5-284
Trypsin in the Treatment of Venous Thrombosis—Victor M. Eddy, M.D. 9-512

Editorials

A.M.A. Convention 7-382
A.M.A. Publications 8-436
American Medical Education Foundation 12-698
Annual Meeting in Hutchinson 3-155
Booklets for Patient Education 9-499
Cults ..... 7-381 and 10-560
Daydreaming 8-436
Exchange of Information 2-89
Federal Aid in Kansas ..... 1-17 and 2-90
Federal Aid Programs 11-629
Federal Legislation 11-629
Future Meetings 6-319
General Practitioner of the Year 6-319
Health Agencies 9-497
Health Insurance Coverage 5-266
Help for the Afflicted 1-19
Medical Advertising 5-263
Medical Provisions for Tax Returns 1-19
National Organization for Medical Assistants 12-698
1955 Legislature, The 5-261
1959 Rural Health Conference, The 6-320
96th Annual Session, The 6-319
On Public View 11-630
Our Journal 12-697
Our New Cover Page 1-17
Our New President 10-564
Porter Memorial 10-561
Resigns from Editorial Board 11-632
Simplified Insurance Forms 3-155
Social Security Revisions 9-498
Special Issue on Economics 12-697
Time May Have Been Cheated in an Untimely End .. 10-559
Tribute to a Friend 1-20
Tuberculosis Case Finding 2-91
Tuberculosis Survey 9-497
Universal Fable, A 8-435
University of Kansas School of Medicine Issue 3-155
What's Your Pet Peeve? 8-435
Your Directory Information Card 2-91

Death Notices

Adams, Dr. James Harlan 9-503
Albright, Dr. Fred Clayton 5-276
Brooks, Dr. Edgar Ernest 3-168
Burger, Dr. Julius Anthony 6-332
Cazier, Dr. Lawrence Wallace 6-332
Clark, Dr. John Donavan 7-391
Colt, Dr. James Dennison, Sr. 10-578
Cross, Dr. James Willboarn S. 12-712
DePew, Dr. Frank L. 6-332
Hammel, Dr. Seth A. 9-503
Haury, Dr. Victor G. 12-712
Hempstid, Dr. Irl Edwin 2-98
Jacka, Dr. E. Russell 5-276
Johnson, Dr. Chase B. 11-634
Jones, Dr. Harold Houston, Sr. 7-391
Jones, Dr. Robert Y. 8-462
Longenecker, Dr. Charles Willard 9-503
Lowman, Dr. Richard Clark 1-27
Lyon, Dr. Charles Walter 5-276
McLaughlin, Dr. James Arthur 10-578
Michener, Dr. William Ernest 5-276
Miller, Dr. Charles Melbourne 12-712
Nipple, Dr. Frederic E. 10-578
Porter, Dr. John McGill 10-578
Poston, Dr. William Osee 10-578
Rich, Dr. Oliver Smith 5-276
Richmond, Dr. Floyd Ernest 5-276
Robbins, Dr. Agnes Louise 8-462
Smith, Dr. Frederick Donald 10-578
Snyder, Dr. Z. Hosea 1-27
Stevens, Dr. Delos Meeker 10-578
Stewart, Dr. Robert B. 2-98
Tate, Dr. Wendell Maurice 8-462
Townsend, Dr. Pinkney Shannon 5-276
Walker, Dr. Herbert William 3-168
Webb, Dr. Herbert Melville 1-27
Young, Dr. Pearl R. 3-168

Regular Headings and Sections

Activities of Members 1-26; 2-99; 3-164; 5-278; 6-333; 7-402; 8-466; 9-503; 10-576; 11-632; 12-712
Announcements 1-56; 2-114; 3-184; 5-292; 7-408; 8-472; 9-534; 10-594; 11-662; 12-714
Book Reviews 1-58; 2-116; 3-182; 4-244; 6-361; 7-410; 8-470; 9-532; 10-596; 12-724
Clinicopathological Conference 3-157; 6-326; 8-438; 10-565; 12-701
County Societies 1-28; 2-102; 3-166; 5-272; 6-321; 10-594; 11-634; 12-708
Just Browsing 1-15; 2-87; 3-153; 5-267; 6-317; 7-384; 8-437; 9-495; 10-557; 11-627; 12-700
Kansas Press Looks at Medicine, The 1-54; 2-114; 5-282; 8-458; 9-530
Month in Washington, The 1-21; 2-86; 3-152; 5-274; 6-350; 7-406; 8-464; 9-508; 10-580; 11-642; 12-710
President's Page 1-16; 2-88; 3-154; 4-212; 5-260; 6-318; 7-380; 8-434; 9-496; 10-558; 11-628; 12-696

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